THE

JOURNAL OF DESIGN

AND MANUFACTURES.

WITH

FOURTEEN FABRIC PATTERNS INSERTED,

AND

ONE HUNDRED ENGRAVINGS.

SEPTEMBER, 1850—FEBRUARY, 1851.

"INVENTION OF ARTS, WITH ENGINES AND HANDICRAFT INSTRUMENTS FOR THEIR IMPROVEMENT, REQUIRES A CHRONOLOGY AS FAR BACK AS THE ELDEST SON OF ADAM, AND HAS TO THIS DAY AFFORDED SOME NEW DISCOVERY IN EVERY AGE."

Defoe's History of Projects.

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WITH ONE HUNDRED ENGRAVINGS,

And a View and Plans of the Building for the Exhibition of 1851.

DIRECTIONS TO THE BINDER.—The following Official Notices to be placed as follows:—
Registration of Designs (three papers).
Arrangement and Reception of Articles in Exhibition, p. 176.
Henry Vizetelly's Circular, p. 172.



THE

JOURNAL OF DESIGN

AND MANUFACTURES.

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ADDRESS.

SINCE the period of the Reformation, we believe the prospects of Design—in which word we comprehend all *useful* and *applied* art—have never been so good as at the present time in England. That great revolution, by breaking up the unity of the Church and dispersing the studious and educated priests, the preceptors and practitioners of art, from their convents, practically annihilated the English Schools of the Arts. The arts, in their widest developements, were an indispensable part of the education which the clergy gave to the people at large, and they constituted one of the strongest links, if not the very strongest, which bound the affections of the people to the Church. No one can walk through Westminster Abbey, Canterbury, or any other Cathedral, without being still sensible of this fact.

Art has, in all times and among all nations, rude or civilised, been the handmaiden of Religion, and one exponent of those feelings and sentiments which it has always been the province of religion to cultivate. The best art of the Egyptians is to be traced among the rock-cut temples of the Eleusinian priests; the remnants of Greek and Roman art were the decorations of the temples of their gods. Almost all that we have of fine mediæval art which remains—the architecture, the sculpture, the painting, the stained glass, the metal-work, the enamellings, the carved wood-work, the pavements, the embroidered vestments, the illuminated missal-work, the bookbinding, were works directed by or executed for ecclesiastics, and emanated from or were used in religious foundations. Among the rudest people, all their highest achievements in art were used in connexion with the service of their gods.

With Protestantism came scepticisms of all kinds. Every one was free to choose his own "ism," and no "ism" has been spiritual enough to seek a developement in material beauty. On the contrary, every "ism" rushed to the opposite extreme, and denounced or neglected the association of art and religion. Church-of-Englandism neglected it: churches were whitewashed, and made simply comfortable, high-pewed dozing-boxes. Instead of inviting the people to enter and meditate in the churches, the churches were shut up and desecrated as show-places, the portals of which could only be passed by bribes to drivelling vergers, or direct payments to the corporate funds; but we are getting somewhat better, and gradually cathedral churches are being opened to the people. Even this very month, the pitiful twopenny fee has, at last, been abolished at St. Paul's. If the art of the last two centuries could be demonstrated by a single type, it would be a Louis Quatorze scroll, which recalls the debaucheries of courts, the corruption of the people, Voltaire and infidelity! In England we have certainly *affected* a liking for Louis Quatorze scrolls, but still have never thoroughly adopted them; and though they are to be found too frequently in every kind of furniture of the drawing-rooms of the upper classes, and have been introduced by fashion into those of the richer middle classes, they have never taken root thoroughly, and now the age is beginning to repudiate them,—for which God be praised.

For two hundred years and more our Church and our "isms" have cared

nothing for art. There has been no *one* centre to watch, and *use* art as its practical missionary; but there are manifestations that a great change is taking place. The decorous repairs of churches throughout the length and breadth of the land is one gratifying sign. Even a stronger sign is the erection of such churches as Sidney Herbert's at Wilton, and that in Chelsea dedicated to St. Barnabas. The very feeling which animates Miss Burdett Coutts and money-making manufacturers, such as Minton and Abraham Darby and others, to build and endow decorous artistic churches out of their worldly gains, is a hopeful promise for the advance of Design. We may expect the new church at Coalbrookdale to be the triumph of decorated iron-work. "Low Church," whether it will or not, cannot help following the path of "High Church," in its adoption of artistic forms, and "Dissent" too takes its key-note from the architecture of its parents. Samuel Morton Peto's munificence, in support of his religious convictions and of art generally, qualifies him to be ranked with a papistical Lorenzo of the sixteenth century. Every new chapel of substance is already more like a mediæval church than a barn, as it used to be twenty years ago. This feeling is influencing all matters of design. In a new Baptist chapel, in Manchester, we have seen ornamental metal-work which would have delighted both Mr. Ruskin and Mr. Pugin, teachers whose doctrine is always worth hearing.

Abandoned by the Roman Catholic Church, the people have been left to get what beauty and refinement they best could; without teachers, they took anything they could lay hands on; and we have passed through periods which have successively adopted morbid affectations for Greek, Roman, Mediæval, French, art, until at last we have got to a point, when the Church, and even Dissenters, are beginning to think art may be useful to them, and when a Protestant millionnaire ventures to express a decided honest preference for a genuine modern English painting over a spurious copy of a Roman Catholic saint. The past season has confirmed the hesitating public in the preference for modern English painters over what are called the "old masters." Our modern painting may be faulty and aimless, but not so much as it is the fashion to consider it; and whether faulty and mean, is at least a genuine, spontaneous product of our time, and not an affectation and a sham. We shall always say, "Down with shams and affectations at all times," however homely the realities may be in their place. For the most part the painting of our day represents nature and the English feeling of the time, and even of past history. There is hope for it, *because* it is a reality. Moreover, it is beginning to be considered as *useful*,—decorative to walls, adorning those of palaces and public buildings. Paintings are pleasantries rich cotton-spinners like to look upon in their drawing-rooms, in preference to the otherwise enormous balances at their bankers. It is becoming part of the habit of the people at large to *want* some art, and they get it. Sixty thousand people want every week the art of the *Illustrated London News*, and would feel a blank in their lives if they were deprived of it; and it is curious to remark how progressively the art in that periodical has improved since its commencement. The art of that paper is decidedly *useful* art, mixed up with the events and sympathies of the day; and to this cause—a very natural and wholesome one—we may attribute its surpassing success, whilst other illustrated, and even cheaper periodicals, which treated of subjects more foreign and unnecessary to every-day life, have become extinct. The *Illustrated London News* is itself a great fact, full of hope for the progress of Design.

The Art-Unions have done good priests' service in teaching the people to look kindly on art, for which we forgive the gambling spirit, appealing to that selfishness, which has, we fear, been the mainspring of them. There are symptoms of their decline, and if they would not be utterly extinguished, which we should deplore, it behoves the managers to find out some new developement of them.

We believe there never was a time when our artists and designers were so much employed as at present, and when there has been so earnest a desire for art-instruction. The Head School of Design has been long over-crowded with

students, and we believe the country Schools are more than usually filled, owing more to the advance of manufacturers and the public in their demand for design, than to any fundamental improvement in the system of management. The stirring up by the House of Commons and the forthcoming Exhibition in 1851 have been the chief causes of this newly-awakened activity; and the Schools are in danger now not from the atrophy which afflicted them in 1848, but from a plethora of patronage, which no one appears to care to regulate. We believe the effect of the Exhibition of '51 will be to increase the demands on the Schools, and it would be well indeed if some one looked a-head in this matter. We could mention facts which prove that the present successful state of the Central School hangs upon a thread, and that a spark would light the flame of discord in the country Schools. Notwithstanding the slumbering sources of evil in the present system, we still are able to remark an onward progress in their mission and the advance of Design itself.

Another step in the promotion of ornamental, if not of inventive Design has been made by the passing of the Designs Amendment Bill, which confers some slight additional rights, chiefly valuable in extending the period of Copyright.

But, above all, Design for utilities has received its greatest stimulus from the Great Exhibition of 1851. This has already given the greatest impetus to all departments of it. Two causes for a long time have exerted a baneful influence on Design, which the Exhibition has stopped. The one is the adoption of cheapness as the chief standard by which all manufactures are to be measured. We believe we had reached the lowest dregs of abasement in pandering to this miserable mistake, and that the Exhibition is a turning point, which will be, it is hardly too much to say, the salvation of certain manufactures. Cheapness had begotten a "nastiness," whereby our manufacturers had lost markets they once possessed. Recently a celebrated cotton-printer told us that, twenty-five years ago, his wife could wear a gown of his own printing, but that she could not do so now, because competition had destroyed all his trade in fine printing, which at present was almost wholly supplied by the French. Years ago he used to sell printed muslins at 3*s.* a-yard, now this was an impossibility for an English printer. But the effect of the Exhibition already had been to induce him to strive to produce a higher class of manufactures, and even after the highest point of excellence, and not to consider the money-making as the only essential part of the question, by which all Design itself had lately been sacrificed, and its professors degraded from cultivated artists into mere mechanical workmen at weekly wages. The Exhibition, by elevating the appreciation of design, will raise the *status* of the Designer morally and socially. Above all, the Exhibition will tend to eradicate that system of wholesale piracy, which manufacturers have thought it no offence to pursue. For very shame, manufacturers cannot shew at the Exhibition reproductions, of which the prototypes might be recognised a year or so back as emanating from Paris, Mulhausen, or Lyons. For such and other reasons, which we have no further space to dilate on, we consider the prospects of Design to be most promising.

Original Papers.

COMPETITIONS FOR DESIGNS.

Competition may be, on a fair field, a benefit to the public. An extended struggle for pre-eminence is necessary for its attainment; for it eventually ensures to the public the best in each class of production. Mutual emulation and generous rivalry effect this, without thrusting forward individual combatants. Existence, to an active mind, is a succession of ingenuous efforts to be first. This applies to every class of intellect and department of active life, but it will be appropriate to the consideration of it here, to confine it to the useful and decorative visible arts. In addition to this natural and general competition at certain intervals and on national and important occasions, the

calling for special competitions of general classes of intellectual production is often advisable and wholesome, checking monopoly and affording facility for superior genius and intellect to manifest itself, and assume at once its due position. But called for as special competitions are now on *every* occasion, however trifling, they have become a *crying evil*, not only to the professions so called on, but to the public itself, who do not thus obtain the best ideas, or the best productions; for men, who are conscious of superior talents, and who have fame to lose, as well as gain, will not put their reputations in the hands of incompetent tribunals. They cannot be blamed; for success is so mighty in this world that merit goes down before it, and once under the wheels of Fortune, complaints and expostulations are stifled or unheard.

Thus competition is good, but not all forms of it; the most wholesome among them being, not that which calls for designs and suggestions for an individual production, such as a building, or a statue, or a picture, or a composition involving a combination of these, but rather such an extended form of general competition as leaves the artist unfettered, that says to him, "Labour and strive, produce your best work in the style where lies your strength, and of which you most approve; you are untrammelled by requisitions, and unconfined by subject, and your rivalry for pre-eminence will be with others left as free as yourself."

From the collections of art produced and brought together by periodical competitions such as these, the public has always before it the opportunity of judging of the best men in each department. Monopoly and the jobbing of interest are defeated, genius fostered, public taste matured, and the best productions insured to the world. Of this nature were the competitions in painting, and sculpture, and other ornamental decorations, called for a few years back by the Commissioners of Fine Arts, on the occasion of their having to select fitting persons for supplying the decorations in the New Houses of Parliament. On these occasions the artists were left free as to the character, scale, and subjects of their competing contributions, and the consequence was a fine collection of native industry and talent. They gave great satisfaction to the public, who were somewhat taken by surprise at finding that they really possessed in their own land so much native ore. It should be observed that on this occasion the competing works were not mere sketches, but were perfected to their proper scale: the cartoons and models being of full or colossal scale, and the wood-carvings, painted glass, &c., actually executed as for fixing. There was a *reality* in this competition, and the results of it have consequently given satisfaction.

Of the same untrammelled nature as these competitions is that universal competition promised in the coming year, embracing so large a portion of the departments of original genius and industrial energy. We are sanguine of its usefulness and general benefit, and expect, in consequence, its periodical recurrence. The genius, energy, and productions of all, are left unconfined, and nations are free to send, in any form and to almost any scale, the results of their labours. Britain is first in this great step, and we hope that, to us, among its numerous advantages will be a revisal of the system of minor competitions at present existing in this country. The subject of juries to decide on excellence is receiving the earnest attention of the Commission, and will be a salutary example to the usual hasty and unconsidered selection of such tribunals which now take place, where in nine cases out of ten ignorance forms the larger ingredient.

In architectural competitions the choice is constantly decided by the *prettiness* of the successful drawing; the getting up of the perspective view. The consequence is that architects are obliged to pander to this ignorant but powerful folly, and embellish their competing designs with Italian skies, impossible trees, and false effects and proportions! They are obliged to act against their consciences to obtain a chance of success. Is a church to be built?—a small church? 5000*l.* is all, perhaps, that there is a chance of collecting. A general competition is called. An honest, unsophisticated architectural victim strives to produce a design which will employ this sum to the greatest

advantage, and afford the greatest stability, the greatest facility for hearing, and the healthiest ventilation. In his endeavour to meet these questions and the requirements of the parish as to sittings, he finds the funds run short, and that, though his building may possess in high degree the qualities of taste, dignity, and simple elegance, those minor decorations, that would have so much enhanced the effect, must be omitted. Added to this he makes but a simple perspective drawing with an effect as near as he can imagine to its actual appearance when built. He, in his own mind, lays his chief stress and hopes upon his ground-plan, and the sound principles of construction which his design contains. Eugenius has done his best, and he sends in his honest and practical ground-plan, elevations, and perspective drawing, with the trust that the committee appointed to decide will also do their best to select the most worthy and appropriate design. Simple mortal! A very different gentleman is, among others, in the field against him. Mundus is a man of the world. He has been in these competitions before, and has had experience of the composition of the kind of tribunal he has to please. The work he sets himself is to get the "job." He very likely makes it his first business to find out the individual among the committee who is likely to have the chief influence in the decision, probably not from knowing the most about the subject, but from his being perhaps the most wealthy and obstinate. If this man has a crotchet about the proposed building, which is at all practicable, Mundus makes this the foundation of his project: he is thus sure of one friend. He works on it to make it look at the same time large and pretty! He does not trouble himself much about the ground-plan and construction, for the influential members are not likely to understand those questions, but he gets up a design which shall have an imposing effect. He introduces the most elaborate ornamentation, he pinnacles and crockets his edifice all over, for this costs him nothing on paper, he paints the trees very green, and the steeple very blue, and produces something that looks three times as large as the building will actually, if erected, and vastly exceeding the funds! He probably frames and glazes these productions; and as they are the most showy contributions, they are arranged in the most conspicuous part of the room where the deciding committee are to meet, while the unadorned productions of Eugenius, if hung up at all, are placed in an obscure corner. The day for decision arrives—the committee meets. They have not much time—they cannot go into the ground-plan and construction. Mundus' friend attracts attention to the very complete perspective drawing produced by carrying out his crotchet. "It would really be an ornament in any one's drawing-room! It shews great attention on the part of the architect! He must be a very clever man! Besides his building looks so much larger than any of the others, and is so much decorated!" There is only one fault—it could not be built, but that they do not know. It is soon settled. "We like that best, and if in the internal arrangements anything may be deficient, we can consult with the architect." Thus they say. Thus it is done! The painstaking, honest, and excellent scheme of Eugenius, among the rest, is not even looked at.

Mundus receives the announcement that he is the successful competitor. He meets the committee; and now comes no little surprise and disappointment, as the next step. They confer on carrying the design into execution. It is found necessary to alter the ground-plan. There are errors to be corrected as to the design and construction. It comes out that the pinnacles, which so much attracted the committee, will be very costly, and the ornamentations of the windows were only intended by the designer to be executed in so feeble a mode, and in cuttings so shallow, that, though *ad captandum* on the the drawing, they would be vile in execution. It is decided, therefore, that if the funds will not allow these to be done well, they had better be omitted, and be lopped off, together with the pinnacles. Still, on receiving tenders, the cost exceeds the funds. The affair is further lopped, and reduced till nothing remains of those decorations and apparent scale that attracted the "competent persons." But Mundus used his birdlime well, his birds were caught, he

has the job, and, after much dissatisfaction and disagreement, the church, such as it is, is built. This we give as one, among numerous instances, of the evil modes in which competitions work, and the bad results to which they lead. For one case where competent judges are appointed, and the selection effected with care, consideration, and fairness, there are far more in which the choice is made by ignorance, and conducted by interest, carelessness, and folly. We would take this opportunity of suggesting, that so much are the conclusions of the judges on those occasions biassed by pretty perspective drawings, got up with colour and exaggerated effect, that it would be well, on such occasions, that a rule should exist allowing no colour, or highly-wrought effects, in competing drawings, but only outline very slightly tinted. The above instance of competitions which we have just given, is by no means the most unfair. *In many cases there is no reality at all in the competitions of either architecture or sculpture.* Some one artist is fixed on, at the outset of the proceedings, by some two or three influential persons, who will eventually decide the choice. They intend to intrust the design and execution to this person. They have made up their minds. But the rage of the day is for competitions. They fear that the contributors will not be satisfied without a competition; and thus a number of intelligent men are invited to spend their thoughts and energies without the smallest chance of success. This most gross case is constantly occurring; and in some instances the resolution for one particular artist has been so strong and undisguised, that even the semblance of fairness has been disregarded. Cases might be cited where competing drawings and models, though received punctually within the specified time, have not even been unpacked, but have been returned to their owners in the state they came! Thus intrigue, undue influence, and carelessness, are a fertile source of the futility of competitions; the main and substantial cause, however, being the incompetence of those who form the tribunals; while, on the other hand, it is evident that their proper composition is the first step towards a right result. How can good judgment be expected from incompetent judges? Position and wealth, not taste and knowledge of the subject in question, are the usual qualifications for an adjudicator. Certain lords may have just ideas on horseflesh, and aldermen on wool, iron, and molasses, but they may be quite ignorant on a matter of art. Unfortunately on this subject, every one thinks he can judge, that he is "to the manner born." To be sure, he may be very modest in speech. He may say, probably, "Oh, I know nothing about these matters; I only know what I like!" Very true, he may know what he likes, but he does not know what he ought to like. What he says and does, however, might be very well, did he act up to his assumed modesty; but the inward truth is, that he ranks his own uninstructed and intuitive ignorance far higher than the study, learning, and real taste of others. The most ludicrous dogmas are sometimes pronounced *ex cathedrâ* on such occasions. In a recent competition for a public work, intended to decorate London, it was enunciated by one of the judges, "Our intention," that is, the intention of the deciding body, "is *not* to have anything ornamental, we want something simple;" as if both qualities were not necessary, and as if they could not coexist! Indeed, on these occasions, involving important matters, large sums, and in the aggregate a most serious national question, such persons are continually self-selected, or foolishly selected by others, to adjudicate, as have never been drawn by occasion, or taste, to give the subjects before them more than the most casual notice. And this is in practical England, which boasts of its "common sense," no proof of which certainly is given by not taking care in these cases to apply special information to special subjects!

(*To be continued.*)

[*Note.*—The present and following papers on this subject have been furnished to us by a valued correspondent, who has had many opportunities of observing the effect of competitions. The present "monument" mania, for Sir R. Peel, the "good" Duke of Cambridge, Wordsworth, &c., and the recent decisions of the Commissioners for the Exhibition of 1851 in the competition for the plans for the building and for the medals, furnish a good opportunity to invite public attention to the principles which competition involves, and we shall be glad to receive communications on the subject.—*Ed. J. of D.*]

MUTILATION OF THE AMENDED ACT FOR THE COPYRIGHT OF DESIGN.

Manufacturers of all ornamental fabrics may congratulate themselves that an extension of the term of copyright to an additional three years is now secured to them, if they will only express their wishes on the subject to the Board of Trade. The Board of Trade has been empowered to give it to them. When they approach the Board, let us advise them to request that the additional privilege may not be accompanied in all cases with an additional fee. Where the fee is already a pound and upwards, it is surely quite payment enough for any period of copyright. Manufacturers, in preparing their memorials to the Board of Trade, may usefully remind the Board that an author may obtain his literary copyright for a term which may be sixty or seventy years, merely for the trouble of registering his book, and paying only half-a-crown, we believe, at Stationers' Hall. Sculptors, too, may now obtain the advantages of registration; and the rights of ornamental articles in ivory and bone are also recognised. So far so good, although we must protest against the ungracious act of the Commons in curtailing the period of the extension of Copyright from *six* years, as the Lords had fixed it, to *three.* In addition, the new Act enables ornamental designs to be "provisionally registered," and exhibited publicly without forfeiting copyright; and we may presume there will be no fee for using this new privilege. Our own specialty "design," limited to its decorative sense, will therefore to the extent we have thus pointed out be benefited by the labours of the last session of Parliament. But we shall be greatly surprised if manufacturers and inventors do not loudly protest against the treatment which the Commons have inflicted on them in passing this new Act. Our readers will recollect, that on the 7th May the President of the Board of Trade stated, in the House of Commons, that it might be expedient to introduce a clause to protect from piracy the "*unpatented articles that might be exhibited.*" This intimation agreed with the decision (No. 8) of the Commissioners for the Exhibition, which proclaimed that "arrangements will be made for the protection of articles which may be exhibited from piracy of the design,"—a decision that had been largely published to all the world. Accordingly the public watched with satisfaction the redemption of this pledge in the Bill which Lord Granville, on behalf of the Government, introduced into the House of Lords. This Bill, giving such protection, passed the Lords, and was sent up to the Commons, when, lo! on the 12th of August, two days before the prorogation, when the House was nearly abandoned, another printed edition of the Bill was published, and the clause wholly emasculated of all its virtue by the cancellation of those passages which we have indicated by thicker type:—

"I. That the Registrar of Designs, upon application by or on behalf of the proprietor of any design not previously published within the United Kingdom of Great Britain and Ireland or elsewhere, and which may be registered under the Designs Act, 1842, or under the Designs Act, 1843, **or of any new Manufacture or Invention for which Letters-Patent may by Law be granted for the sole making, exercising, vending, or use thereof,** *for the provisional registration of such design under this Act,* and upon being furnished with such copy, drawing, print, **name,** or description in writing or in print as in the judgment of the said Registrar shall be sufficient to identify the particular Design, **Manufacture, or Invention,** in respect of which such registration **as next hereinafter mentioned** is desired, and the name of the person claiming to be proprietor, together with his place of abode or business, or other place of address, or the style or title of the firm under which he may be trading, shall register such Design, **Manufacture, or Invention, for the term of one year,** in such manner and form as shall from time to time be prescribed or approved by the Board of Trade; and any Design, **Manufacture, or Invention,** so registered shall be **called** *deemed* provisionally registered, **and the words 'provisionally registered' shall be marked upon or attached thereto;** *and the registration thereof shall continue in force for the term of one year from the time of the same being registered as aforesaid;* and the said Registrar shall certify, under his hand and seal of office, in such form as the said Board shall direct or approve, that the Design, **Manufacture, or Invention,** has been provisionally registered, the date of such registration, and the name of the registered proprietor, together with his place of abode or business, or other place of address."

Thus all that the new law now enacts for "provisional registration" is, that ornamental designs and "utility" designs may have it—a mighty work to engage the labours of Parliament—an Act to save the payment of fees varying from 1*s.* to 10*l.*! which the Treasury already had power to dispense with, whilst unpatented articles, for which it would have been of real usefulness, are excluded, —after the Government had attempted to include them!

But this was not all, for the preamble of the Lords' Bill, which set forth that it was expedient "to encourage the exhibition of works of art," was further mutilated by the Commons by the ungracious omission of these very words. Was this a peace-offering to Colonel Sibthorp, or an intended repudiation of the Exhibition? We think the public, who are interested in such matters, will be all amazement, and will naturally ask, if the Government can have been a consenting party to these changes? Are they to be postponed to another session? and if so, why? Or are they abandoned altogether? Is the poor man, who cannot afford to purchase a "patent" protection at 150*l.*, to be invited to exhibit the fruits of his ingenuity and labour, and to be left to the mercy of pirates? Is the foreigner to be honoured as our guest that we may rob him? Is the pledge of the Royal Commission to be without meaning? We are in the dark for the present, and must leave manufacturers and inventors to seek a solution of these questions themselves; and we strongly advise them to do so forthwith of the Board of Trade, which is the department of Government best able to solve the mystery.

SHAMS AND IMITATIONS, ESPECIALLY IN WOVEN FABRICS.

In art, as in morals and politics, a sham is always despicable in the long run, whatever may be its temporary success; perhaps all the more despicable in proportion as it is successful at first. Although, when we deal with small matters, we are too apt to forget principles, and become lax in the application of them, still the principles remain as sound as ever, and it would be better for ourselves and our works if we were never even for an instant to be oblivious of them. A sham being always the pretence of something else, must necessarily be inferior to the thing itself: it can never get higher than meanness, and in many cases—in manufactures especially—it has a tendency to degrade and lessen the appreciation of the superior thing imitated. This tendency to substitute inferior imitations for the superior realities is one of those evils which so darken our manufacturing position and prospects, and the cure is so distant, only to be hoped for by the increasing intelligence of the people, which we all know is of slow growth, and demands infinite patience from teachers. As soon as a demand is created for any fabric, genuine and original of its kind, that instant competition attracts the unscrupulous to attempt to produce some base imitation of it, which, affecting to have the semblance of the original, shall be mistaken for it, and shall supplant it at a lower price. Who benefits? Not the public, whose taste is thus bewildered and disordered: distracted from the truth to a lie—not to mince words. The value of the original is deteriorated by the debased and vulgar affectations of it, and the manufacturer of the original fabric, instead of striving to *raise* the quality of his manufacture, is irresistibly seduced to lower the quality, in order to meet his rival in the market in the point of price.

For the last few years we have had numerous and striking examples of this tendency in the thousand attempts which the producers of one class of manufactures—woven fabrics—have made at imitations. The printers of shawls and of other garment fabrics, for the most part, have long been striving to imitate the exact appearance of the threads inserted by the loom. The struggle has been to produce a sham cachmere or Norwich shawl for a few shillings, and thus placard the backs of the female population with a sort of material falsehood. We have a belief that the indirect effect of this, on the moral tone of all parties, is much greater than is imagined, though it may raise a smile to express it. We think we could prove, without great difficulty, that there is some damage even to good morals in the long run to the housemaid,

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CALICO,

PRINTED BY DOLFUS, MEIG, AND CO.,

For Faulding, Stratton, and Co., 13 Coventry Street, Piccadilly, London.

Among the "chintz" dresses produced this season we have observed none more novel and lively than the above. It is the first time we remember to have seen the vetch used as an ornament for calico, and its successful adaptation may perhaps suggest to the designer a more extended study of the wild-flowers of the fields. The general trailings are equally distributed, forming a light ground, whilst the flower of the vetch makes a soft and rich spot.

who, parading in a Glasgow printed shawl, affects to pass for her mistress in a cachmere one. Of this we are sure, that there is a great and mischievous bar thereby placed against the progress of good design, which it is more our particular vocation to examine than to enter on a discussion on morals.

We contend that all such imitations are opposed to nature's own principles, which are always patent and without deceit, and that they violate the conditions of the materials she abundantly supplies. Natural laws dictate certain

(Cotton, printed by Messrs. Schwabe.)

limits to weaving as well as to printing, and manufacturers and designers would do well to bear this fact in remembrance. Effects produced in weaving, especially the disposition of the lines, are necessarily limited by the absolute disposition of the threads themselves, whereas in printing there are no such limitations. Printing has a power and variety of its own which no skill in weaving could successfully imitate. So far as design is concerned, the two

processes do not range on the same level, printing ranking very far indeed the highest. Now we think it must be obvious how very much the advance of printing must be crippled, if the aims of the printer be fettered by the desire to imitate a lower class of designs. Printers do not imitate woven effects, because they are more difficult than printing effects; but simply because woven effects, however inferior, are more costly to be obtained. And so long as this debasing motive has a power of action, there seems to be no limit to the degraded imitations with which the world must be afflicted, until a wiser public intelligence interposes a barrier. Printers lately have descended even lower than the imitation of lively-coloured garments, and have been aiming to see how closely they could imitate the plain monotony of worsted and alpaca fabrics. Alpaca itself is not a very high class of material, capable of artistic effects to excite much imitative ambition, but to engrave rollers to cover honest cottons with the affectations of mere woven lines without design is miserable work indeed,—the lowest kind of scramble for money-grubbing. If the public desire calls for monochrome fabrics, it would be ten thousandfold better to dye cottons in honest single colours, with all the infinite variety of tints which can now be realised, and thus challenge the woven fabrics on grounds they cannot compete with. But even this course is not necessary, and, as our illustration shews, our printers may appeal to the prevailing "fashion," and produce a style, which, whilst it has a general likeness to a rival style, still has a character of its own. In the present pattern, printed by Messrs. Schwabe, there is no affectation of the warp and weft of the loom, and without making much pretensions to any erudite design, this example is of a simple and unpretentious character; is an honest printed cotton, and not likely to be mistaken for anything else,—a sufficient merit in these days of plagiarism and unreality to entitle it to be brought forward to illustrate our argument, which we may pursue further on a future occasion.

IRON-WORK AND THE PRINCIPLES OF ITS TREATMENT.

As in philosophy we find a certain number of the thinking world unwilling to concede value to anything the utility of which they cannot clearly perceive, —so among those practically engaged in the great work of manufacturing production, a large body of individuals may be found, who yield a title to merit only in proportion to the degree of utilitarian contrivance manifested by the designer of any of the staple articles of commerce. It is to the class of men in the iron trade who hold such tenets that we are mainly indebted, alike for the wonderfully ingenious and delicately adjusted beams, girders, machines, roofs, &c., and for the particularly ugly forms in which, until within a very recent period, these objects have been habitually designed.

There are, again, others in philosophy who do not allow that any narrow scale of human wants and necessities can correctly determine intrinsic value in art or science; while in the province of manufacture and its design many may be met with who, dwelling on the existence of an inherent grace in form and proportion, attach a secondary value to the utilitarian portion of every object—men who in the specialty of iron-work would determine the merit of a pump or a lamp-post by the possession of certain picturesque or graceful characteristics, rather than by the quantity of water raised by the one, or the facilities for the distribution of light afforded by the other.

To the first class of bigots (the *Utilitarian*) we may fancy, belong the careful cast-iron constructionists, who generally build railway sheds *ad infinitum*, and bridges *ad nauseam*, with more skill than taste; to the second (the *Idealist*) the poetical, and, *mirabile dictu*, sometimes tumble-down genii, who raise imaginary towers on "the baseless fabric of a vision," cover dog-kennels with crockets and finials, turn stoves and clocks into cathedral façades, make bridges where water flows not, and too often sacrifice comfort and convenience to ornament and effect.

In cases where the diversities of opinion on matters of design to which we have referred exist, the differers being intelligent, we usually meet with a

degree of mutual tolerance; while, in the present day, the division-of-labour system so circumscribes even such men's opportunities of study, that they are generally content to acquiesce in the opinion of any one who may expressly devote himself to a specialty, which they may not have leisure to analyse properly; although their own experiences, as incidentally affecting the subject, may lead them to other and conflicting conclusions.

The results of the system of proceeding generally adopted in the iron-trade (at any rate until very recently) singularly illustrate the enfeebling action of this excessive division of labour, combined with this easy-going tolerance—this happy-go-lucky, *lascia fare, lascia stare.* An industrious unit of our *Utilitarian* class, absorbed in ingenious contrivances for the economy of production, and developement of strength, fibre, clean-casting, &c., of the metal, instead of troubling his head with the study of such general principles of composition as would lead him to combine and refine successfully upon the elements it is his specialty to deal with, sends straightway for one of our ideal class, and confides to him the charge of making what is called a design, believing that the artist from his professing *art* must of necessity be able to do it; and receiving as gospel anything that may be prettily sketched or prettily asserted concerning the specific ornamental form which may be superadded, to make his simple objects look anything but what he originally intended them for. Not troubling his head much about this, he hugs himself in the consciousness that his part of the business is very well executed, and that, as he has "got the ornament done" by a crack, or at any rate glib artist, it is no doubt likely to do him great credit. Now what, under the most favourable circumstances, is likely to be the result? The *Idealist*, overflowing with associations of beauty in marble or stone, in painting or in architecture, will be found to have lavished his pretty fancies just in the wrong place, and in a form often so unsuited for manufacture as to entail an utter sacrifice of what he relied on for effect before his *design* can be embodied in practical form. Sometimes, alas! he breaks down, from being set to speak a language with the grammar and component elements of which he is utterly unacquainted, and so falls back upon the dreary precedent of what somebody else has just been doing; or copies and fits in a bit of Jupiter Stator scroll, Louis Quatorze shell-work, or Gothic pannelling, thinking that that will be quite *safe.* Had our Idealist but shaken off the trammels of his lot in the division of labour, and dared to enter into the charmed circle in which he believes the Utilitarian to be necessarily sole potent enchanter, the spell that bound his energies might have been broken; and he, too, might have successfully aided in subduing all sorts of lucky sprites to work out successfully his own and his co-magician's will and bidding, and together and of one mind they might have wrought marvels.

The lesson such experiences should teach is fit to be assumed as a corollary of the first importance, and is simply to the following effect.

No successful results can be attained in the production of beautiful iron-work, or beautiful anything else, until one of three things takes place:—either, 1st, until the manufacturer and designer are one individual doubly gifted; or 2dly, until the manufacturer takes the pains to investigate and master so much of the elements of design as shall at least enable him to judiciously control the artist; or 3dly, until the artist by a careful study of the material and its manufacture shall elaborate and employ a system of design in harmony with, and special to the peculiarities so evolved.

It is quite true that the greatest works in iron which have been executed of late years have been worked out by civil engineers, and the minor but most fanciful ones by architects, but it is so difficult to define where civil engineering ends and architecture begins, that in the few remarks we are about to make we shall employ the latter term to represent, in addition to its ordinary meaning, so much of the science of civil engineering as is essential to general construction or amenable to the terms of existing styles.

Modern science having suggested iron as admirably adapted by its strength, elasticity, toughness, and durability, for the purposes of construction, its

introduction obviating many difficulties without it almost insuperable, and our necessity imperatively urging the adoption of a material possessing such qualities, uncongenial as it may appear to our previous notions of architectural taste, we have been compelled to place it on the list of available building materials.

It is due to the exertions, and to necessity stimulating the endeavours, of that class of architects (or engineers) we have denominated the *Utilitarian*, to acknowledge, that at the present time the science of the employment of iron, in construction, has reached a high degree of perfection—that not only have its toughness, elasticity, specific gravity, capabilities of compression, and almost every possible contingency of its use, been nicely calculated and recorded, but that modern science has even laid down, and invariably provides for, the proportions of its expansion and contraction, and devised and experimentally proved the forms in which with the minimum of metal the maximum of strength is to be obtained.

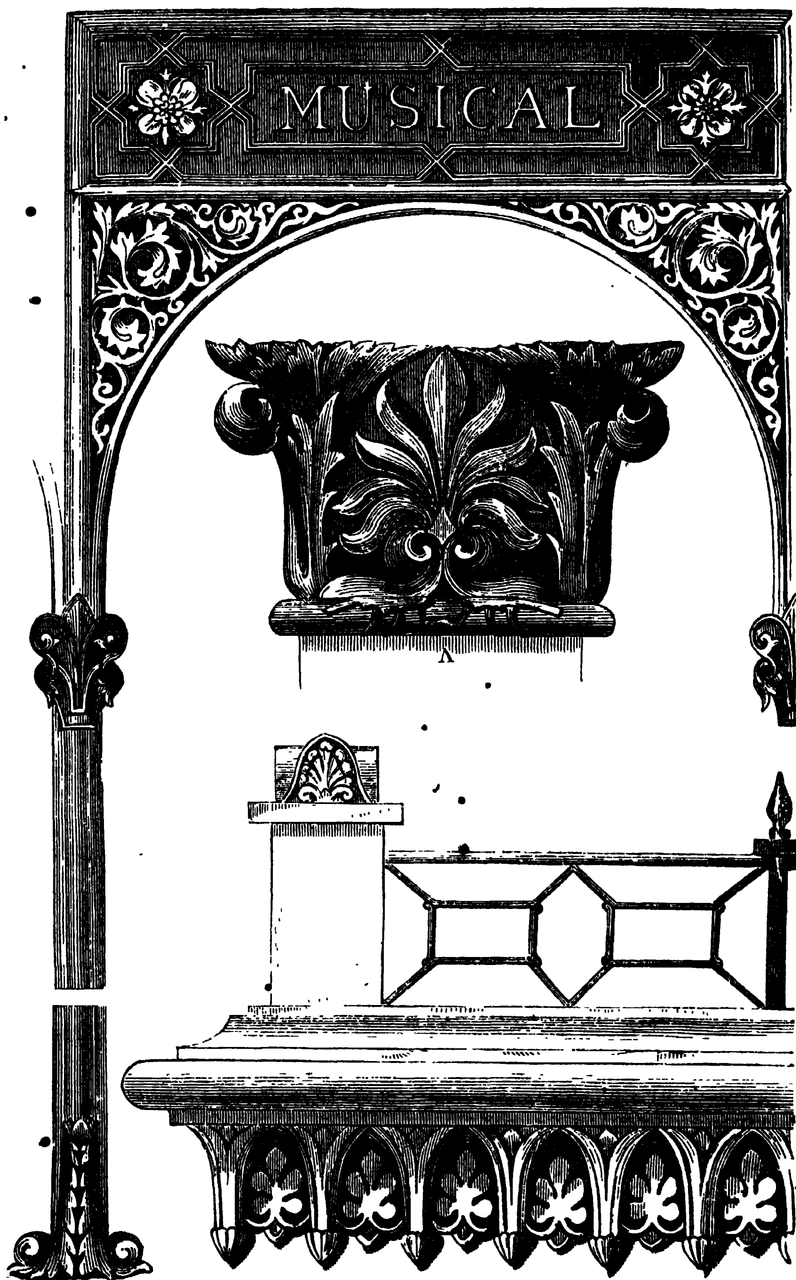
When, on the other hand, we enter upon an examination of what the influence of taste has effected in overcoming the several difficulties peculiar to the material, and to the natural disinclination of the eye to appreciate change in what it has been accustomed to admire; when we look at the monstrosities of form in every style of design, issuing from the foundries, not to be once used, and then, perhaps, lost sight of in obscurity, but multiplied and perpetuated through the medium of casting,—thrust forward on all occasions, as if in vainglorious consciousness of their superlative violation of the laws of harmony and proportion, we cannot but feel conscious, that the steady course of utility has, at least in this instance, outstripped its more poetical associates, inventive genius and good taste.

Did our limitations of time and space "conduce" (as Inigo Jingo used to say), it would be a most grateful task to notice how happily, in exceptional cases, the artist and constructor have of late been working together; but since we must just now content ourselves with reserving to some future occasion many instances which press upon our memory, we shall compound for the forced postponement, by dwelling for a few moments on one particular example, which, though slight in itself, may yet, from its being tolerably conspicuous and accessible, serve us very well as an illustration.

The front of Mr. Chappell's house in Bond Street requiring repair, the services of Mr. Owen Jones were called in. The wall having been underpinned, and the old bressummer removed, a very clever boiler plate-girder was inserted, and in its ingenious construction we fancy we may recognise the assistance rendered by Mr. C. H. Wild to his brother-in-law. With considerable judgment, Mr. Jones has left the girder to tell its own tale, and not fallen into the frequent mistake of appearing to support a whole façade upon sheets of plate-glass and a few sash-bars. He has wisely carried back the shop-front a few feet, and put up an extremely elegant filling in, the details of which we have engraved. The least successful part is the balcony, the rather clumsy form of which points out the great difficulty always met with in uniting materials which require such various proportions as stone or brick and iron. The effect of the whole is, however, most satisfactory, and we feel convinced that such combinations of talent, were they more common in the "highways and byways" of London, would materially elevate the style of our now anything but admirable street architecture.

We have glanced, in passing, at the difficulties of system that must be overcome before iron can be rendered a pleasing object to the eye of taste, but it is in an examination of these points of difficulty, in relation to the several existing styles of architecture, that we can alone hope to estimate them rightly, since, so long as the association of ideas prevents a sudden revolution in matters depending "on the education of the eye," it is in the orbit of those styles that our ideas will perpetually revolve.

Our climate, religion, and habits, are so utterly opposed to the introduction of either of the Egyptian or Indian styles, that they have merged rather into topics of curious inquiry for the antiquary, than into subjects of important



(Brass and Stone-work: Details of Shop Front at Mr. Chappell's, the Music-seller, in New Bond Street, designed by Owen Jones, manufactured by Burnett, of Deptford.)

consideration to the practical architect. At this moment we are not enabled to remember more than two or three specimens in the metropolis—the Egyptian Hall, Piccadilly, a house and shop-front in Welbeck Street, and the entrance to the "Abney Park Cemetery." Among the Exhibition of Industry building designs were two or three magnified sarcophagi. In connexion with one of such buildings only have we seen iron introduced, and there, at Abney Park, in nice keeping with the glazed sash-frames and brown holland blinds, have we seen a remarkably neat cast-iron railing, neatly painted, connecting the main masses of the "Propylon." So much for consistency! And such must ever be the result, when lightness, the peculiar characteristic of the employment of iron, is placed in juxtaposition to the grand solidity that characterises these styles.

We now proceed to the pure, the chaste, the beautiful Greek; and first, we would notice the extreme dependence the classical styles have upon association for effect.

In the graceful combination of strength and ornament in Grecian architecture, do we not strive to realise to ourselves that union of mental vigour and elegant taste for art that so splendidly elevated Grecian intellectual power? Do we not look upon the ruins of their temples as hallowed relics of the purest art? Do we not study and re-study their *orders* and *proportions*, but to catch one spark of the genius that fired them?

What, then, must be the feelings of the enthusiast for Grecian architecture, when he sees (as here and now he could not fail to do) a cast-iron girder thrown across an opening, a Grecian entablature and Grecian ornament stuck upon its face, and not a semblance of a column in the whole composition? When he sees a cast-iron post with a Greek anti-cap stuck upon its head, about twenty diameters high, and no entablature, supporting a shed of corrugated iron? When he sees (as he must in almost every street) the graceful honeysuckle of the Erechtheion shrunk in the atrophy of cast-iron, decorating the areas and balconies of houses and buildings of every description of purpose, and every gradation of ugliness? When he recognises the simply beautiful variations of the lotus ornament expanded into a lamp-post; here the *fitting* decoration of a Christian church, there flaunting on the lamps, area-gratings, and bar-columns of a gin-shop, as if in standing derision of the "temperate, teetotal" valley of the lotus-eater?

It would be diverging too much from our course now, to enter on the question of the propriety of the introduction of Grecian architecture to this country, but we cannot refrain from noting the fact, that within the last few years the popular enthusiasm for that style of art, kindled by the labours of Stuart, Revett, Major, and the Dilettanti Society, sustained by the energy of Wilkins, Cockerell, Donaldson, Angell, Leake, &c., has materially declined. We would account for this, very mainly, by the obtrusive dragging forward and multiplication of its most beautiful ornaments by means of cast-iron and cement. Now, though whatever inherent beauty has existed still exists in these decorations, yet, as the most charming airs lose much of their once stimulating effect when thrust upon the ear through the medium of incessant street-organs, bands, and butcher boys, when hummed out of all time and out of all place, so do these lovely ornaments lose their effect upon the eye when thrust forward and maltreated by cement, and doubly thrust forward and maltreated by cast-iron.

(*To be continued.*)

CANONS OF TASTE IN CARPETS, PAPER-HANGINGS, AND GLASS.

The remarks made by Mr. R. Redgrave, A.R.A., one of the head masters of the Central School of Design, at the last distribution of medals by the Society of Arts, contain the enunciation of principles so sound and so well meriting serious reflection from all, both purchasers and designers, that we gladly record them more particularly. After some general remarks on the progress of the Society, Mr. Redgrave proceeded to say:—

"We have had this year a double exhibition,—an exhibition of rare and curious works of ancient and mediæval art, accompanied by our usual annual collection of the efforts of British skill and industry. If this latter display has been less important than usual there is sufficient to account for its deficiency, since many are husbanding their strength for the great year of 1851. In prospect of our coming struggle with the nations, I cannot but think this a desirable opportunity to advert to certain qualities wherein design applied to various fabrics has seemed to me to be wanting on comparing together these two collections; and in doing so I would not only address myself to the manufacturers and designers now amongst us, but to the ladies, of whom so large a number are here present. These latter are the great purchasers of dresses, furniture, and ornamental works; and their taste, true or false, must determine the market for the labours of the former. Now it seems to me that there is one simple principle which you as purchasers overlook, and which our designers do not sufficiently consider, and that is UTILITY. Do not misunderstand me: I do not refer to that common and obvious sense of utility which is apparent to every one, by which we know that the use of a carpet is to cover a floor, of a glass to contain liquid, or of a paper-hanging to decorate the walls of our apartments; but to a more hidden sense, which, whilst it requires some thought and study to arrive at it, is not less real, and would save us from many errors both of choice and taste. Thus a carpet, whilst it covers the floor, is also the ground from which all the furniture and the various objects in the apartment are, as it were, to arise: it should, therefore, be treated as a flat surface, and have none of those imitations of raised forms or solid architectural ornaments so often seen; the colours should be without violence either in hue or contrast, that they may not intrude upon the eye to the disadvantage of the more important objects placed upon the carpet. You will perceive by these remarks how out of place are the shells and scrolls of the growth of French taste in the 18th century, as also the tawdry *bouquets* so often mixed up with them; the landscapes, with palm-trees and skies placed for us to walk over, are found in French designs of the present day even more than in English; indeed every form or colour that obtrudes itself strongly upon the attention. The same sense of utility would regulate the taste in paper-hanging also. This has to form the background to all the furniture, the objects of taste and *vertu*, the pictures, and whatever else rare and valuable is contained in the apartment; nay more, to enhance and support the fair faces that congregate there, or to enable us to study in the human face the intellect of the assembled guests. A judicious sense of use in these fabrics will enable us to give an appearance of warmth to a cold room, or of coolness to a warm room, to enlarge a small room, or to give to a large one that sense of snugness and comfort which Englishmen so much desire. But if the forms grin and stare, the contrasts are violent, the colour crude or ill-chosen, these utilities are violated, and all those rare contents, gathered perhaps at so much cost, are thrown away and lost, unable to compete with the cheap finery of the paper-stainer or the decorator. With respect to glass also, how often is it covered with a ground surface or cased with opal, forgetting that its beauty and its *utility* also consist in shewing the crystal clearness of the water, or the ruby brightness of the wine that mantles in it. It would tire you if I entered into this subject as it deserves; but I must pass to another, wherein I feel we are again deficient, that is, unity of style. The archæologist is enabled precisely to give us the date of a fabric of the olden times by its ornament; but in our fabrics we find a heterogeneous mixture of the styles of all ages,—Greek, Arabic, Indian, Louis Quinze ornament, all woven in the same carpet, or printed on the same hanging, without congruity, and to the violation of all unity. Then, again, I would notice the want of fitness in the ornament to the thing ornamented. If fitness were more attended to we should not find the sacred symbols of the Church applied to secular purposes, the decorations of the funeral urns of Etruria on our wine-flasks and goblets, nor the friezes sculptured as relief on ancient temples forming printed druggets and hearthrugs. I feel quite certain that these hints, properly considered, would save us from many errors, and may yet prevent some of these anomalies from finding place in the great Exhibition, which is to follow those Exhibitions so auspiciously commenced in these rooms."

Mr. Redgrave's opinions are, generally, quite in accordance with our own, as our readers will no doubt have observed. We think, however, his remarks on paper-hangings are liable to some misconstruction, since there certainly are two different principles in designing for such fabrics; the one wherein the paper, as he truly says, must be considered as the background to all objects, and be treated accordingly; while in the other mode the paper-hanging becomes a decoration in itself, and may be so treated as to call attention more strongly to its own ornamentation. We have no doubt, however, that the

brevity necessary on such an occasion prevented him from more than a general reference to the subject, but we hope he will pursue the texts he suggests into further detail. It is by such manifestations that he maintains the confidence of his pupils in the School—that he can preach as well as teach soundly,—and that he proves, at least, that he does not shrink from the responsibility which ought to attach to the office of a head master in it.

MISCELLANIES IN METAL.

PAPER-WEIGHT, in Bronze, by Messrs. Elkington.

WE know scarcely any other legitimate object of art-manufacture which offers such infinite opportunities to the designer as the paper-weight: the whole gamut of change lies open to him, from the plain slab to the highest art. It is unencumbered with those difficulties of art-application which beset other objects of utility, from the simplicity of its essential condition, that it must firmly and solidly rest on the paper; but this does not exclude the exercise of

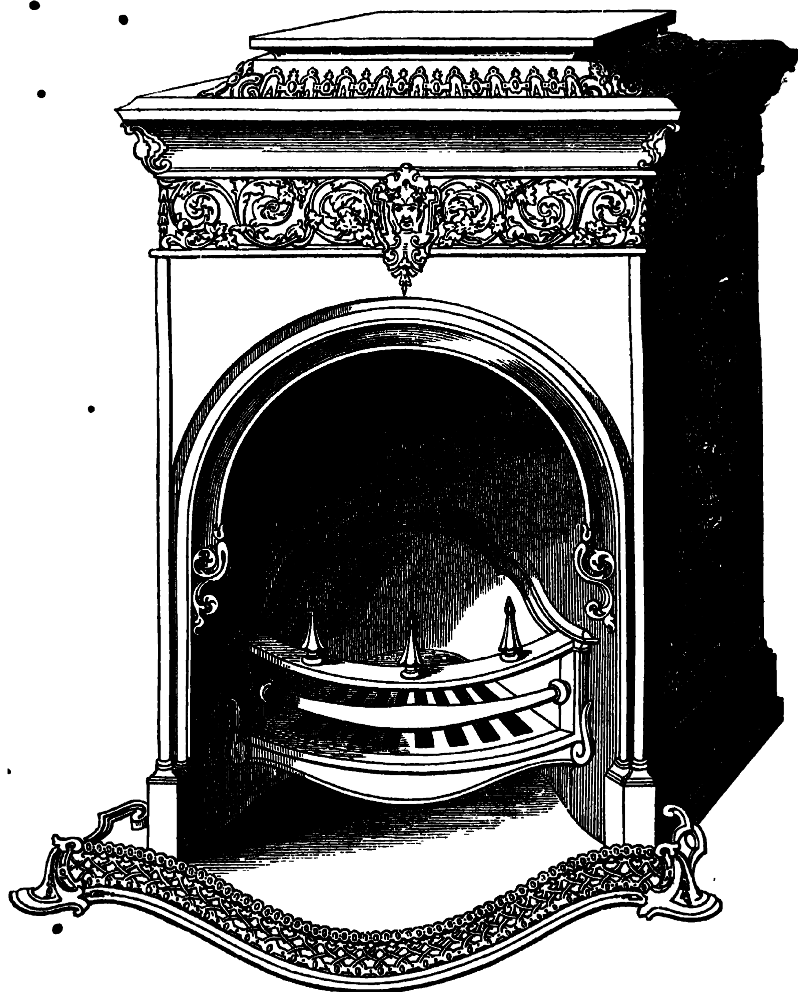


taste to its upper surface. We have here a specimen of those electrotyped by Messrs. Elkington, which, from the general form or piling of its composition, preserves the centre of gravity well within the boundaries of its base, admirably adapting it to its purpose. But we object to the several unprotected projections, draperies and rushes, as well as the feeble expression of the swan's

neck. If the metal base had been rectangular instead of elliptical, and bound neatly by a moulding in the marble slab, the art would have looked less *appliqué* than at present.

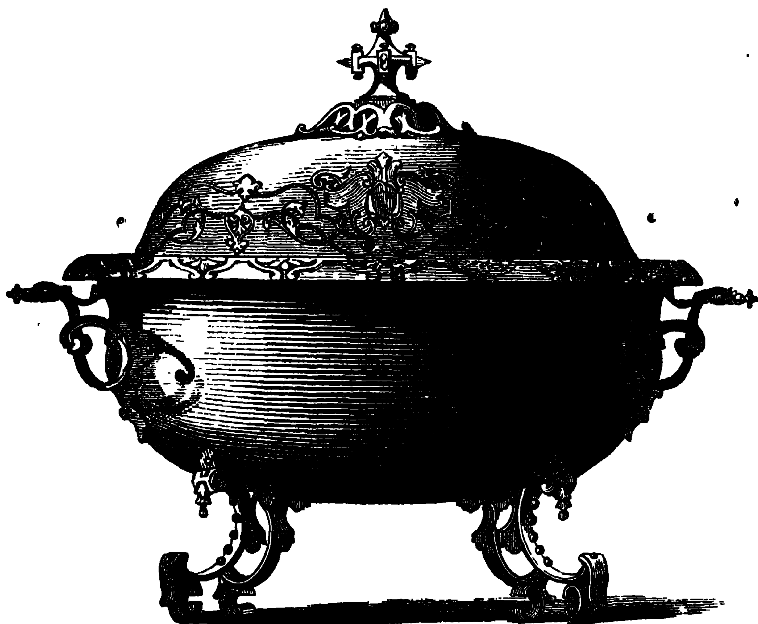
STOVE FOR GENERAL PURPOSES, manufactured by Stuart and Smith, of Sheffield; and COAL-BOX, manufactured by F. Walton, Wolverhampton.

We may notice these two articles together, because they both illustrate a proper perception of the application of ornament by the respective designers. The stove is one of the most compact and judiciously ornamented articles of



its kind that has been lately offered for public approval. In accordance with right principles the ornament, which is rich and yet lightsome, as metal ornament should be, is subordinate to the architectural lines, and not an impertinent excrescence, as it is too often made. The frieze is pierced, and presents a very nice specimen of iron-casting. Similar remarks may be applied to

the coal-box, which usually is not made very sightly. In the present example



this defect is entirely overcome, and it must be admitted that the forms are gracefully treated.

PREPARATIONS ABROAD FOR THE EXHIBITION OF 1851.

THE Commissioners, we understand, continue to receive the most encouraging accounts of the extensive preparations which foreigners are making to accept the hospitable welcome which we propose to offer them at the Industrial Congress in 1851. We believe there is hardly an exception to the frank acceptance by all nations of the amount of space which has been assigned to each by the Commission. In some cases not only has the allotted space been accepted, but a request has been preferred for more. Russia, Switzerland, and Austria, have each requested additional space, and the allotments of the first and last have been somewhat increased. It is said that as the Russian ports would be frozen in the early part of the year, the contributions of Russia are likely to be in London early in December, and rumour speaks of them as being of a very striking character, especially in bronzes and decorated china. After considerable difficulties, owing to the constitutional arrangements of the United States, which had never contemplated a federal action for such a purpose as the present, a commission of action has been formed at Washington, of which the head is the present President of the United States, and the apportionment of the 80,000 superficial feet among the several States has at last been made. In several departments of machinery the Americans promise to exhibit extensively ; in cutlery the Sheffield workers are to be challenged by them, and the men of Birmingham are, it is said, to be distanced in the exhibition of rifles and revolvers at least.

In Canada the inhabitants are to hold a grand industrial fair at Montreal in September, and from the articles exhibited judges will select such as may be deemed worthy of transmission to the Great Exhibition in 1851. The specimens of minerals, &c., will be accompanied by accounts of the place where produced, and other information valuable to the merchant.

Letters have recently informed the Commissioners that the King of S.. s authorised the appropriation of the necessary funds towards purchasing a collection of specimens of Swedish iron; that Melik-oot-toojjar (chief of the merchants in Persia) has orders to prepare specimens and transmit them to England; and that the Chilians propose to exhibit.

The Commissioners have now perfected their means of communication with the following countries: France, Belgium, Bavaria, Netherlands, Saxony, Hanover, Sweden, Norway, Russia, United States, Chile, Wurtemburg, Nassau, Venezuela, Prussia, Austria, Hesse Darmstadt, Bremen, Turkey, Spain, Hamburgh, Switzerland, Peru, and Persia.

It is of the highest importance for our manufacturers to be informed of the great efforts which are being made abroad. We have an omen of what France is likely to do in the Address of M. Dupin, which the Westminster Local Committee have very usefully translated and published. We entreat our own exhibitors to ponder well upon it:—

"*Artificial Porphyry.*—At Sarreguemines arose our manufactures of artificial porphyry, appropriate only to the splendour of temples and palaces.

"*Porcelain.*—The manufacture of porcelain is an art where French genius finds a field for its combined excellencies—economy in fuel, simplicity in mechanical contrivance, taste, and elegance of form, colour, and design; these are what foreigners appreciate in our cheap, elegant, and beautiful porcelain. Limoges and Paris will prove at the Exhibition of London the respective merits of their manufactures.

"*Glass.*—In the common kinds of glass, as in pottery and wrought-iron, the price of fuel is our adversary.

"We enter the lists with advantage in the superior manufactures of glass; we must exhibit our mirrors polished by an improved process, our glass coloured by an ingenious chemical application, and the glass manufactured with zinc instead of lead, which gives promise of increased refractive power to our lenses for optical and astronomical instruments.

"*Woven Goods, &c.*—The manufacture of thread and woven goods presents so many branches where we hold the highest rank, that we may, without hesitation, acknowledge there are some in which we cannot maintain a competition with England: such as the spinning of cotton by machinery, which originated in England twenty-five years earlier than in France. At the present day we can spin it equally well, but not at so low a price.

"*Printed Cottons.*—By unceasing efforts we are able, nevertheless, by means of system and economy, to introduce some of our printed and dyed fabrics even into the markets of Britain; this honour is shared by the unpretending fabrics of Rouen, as well as the richer productions of Alsace. Generally, our wool is dearer than that of England, so also for the same reason is our worsted yarn and common cloth; there are, nevertheless, certain kinds of spun wool supplied by us to England.

"*Fine Cloths, &c.*—Notwithstanding the disadvantage of price in the raw material, our fine cloths, kerseymeres, our mixed stuffs, and our so-called Ternaux shawls, find enlightened purchasers in the British markets. The article merinos, alone, figures in our exports at the sum of five millions of francs (200,000*l.*); a careful selection must be made of these various products to be sent to the Exhibition.

"*Carpets.*—Generally, our common carpets have not the advantage of cheapness, but our richer carpets and hangings are unrivalled. Fine art allied to mechanical skill augments still further the merit of this manufacture.

"*Silk Goods.*—I now come to the most brilliant of our textile products, to the manufacture of silks. Notwithstanding the high duty which England continues to levy on French silk goods, which is a flattering admission, we have here the proportion which England buys from us in comparison to the rest of the world.

"WOVEN SILKS SOLD BY FRANCE.

	TO ENGLAND.	TO ALL OTHER COUNTRIES.
Figured silks	20	100
Plain silks	47	100
Silk ribands	57	100
Silks mixed with other material	50	100
Silk lace	51	100
Fancy goods	56	100

"We hope that Lyons, St. Etienne, Avignon, and Nismes, will shew the productions of their ingenuity, from the goods remarkable for their lowness of price, up to the *chefs-d'œuvre* of elegance and richness. We ought also to be able to exhibit our

superiority in another kind of fabric, that of hemp and flax, if we had availed ourselves at first, of a French discovery of the means of spinning flax by machinery; the Scotch and English have borrowed our invention, to forestall us: they have got a-head of our sluggards, and it is just.

"*Parisian Stuffs.*—The tasteful hand-work of Parisian industry has given to all our textures a superior elegance which heightens the merit of the stuffs in general use, prepared in our workshops of Paris; a considerable part of these stuffs is sold to England—scarcely necessary I think to offer this weapon against us at the English custom-house.*

"*Fibres of Bark.*—We have already spoken of cotton-wove goods; let us now point out a humble kind of material, which may prove of importance in Algeria; it is that obtained from the fibres of bark or of reeds. The simplicity, the cheapness, the elegance even of these productions recommend them for summer apartments.

"*Paper, &c.*—The foreigner appreciates our card-work in its varied forms, and our finer papers are worthy of figuring beside the best English papers.

"*Printed Paper Hangings.*—We have brought to a high state of perfection our printed paper-hangings, both for beauty of colouring, for their adjustment, and for elegance of design. It is important that our most beautiful specimens should be exhibited, as well as those of the cheapest kinds.

"*Printing.*—Printing, considered simply as a mechanical art, allows no longer of superiority among nations where the arts are already advanced.

"*Printing Scientific Works.*—But the printing of works requiring both science and erudition, marks always the intellectual advancement of nations by the perfection of its greatest enterprises. It is honourable for France to offer works of this description, either very lately completed or in the course of execution. France possesses, at least, one family of printers who revive again the Estiennes, the Aldi, and the Elzevirs, in combining the technical skill of their profession with the learning, the taste, and the genius of those fathers of literary and scientific typography. Among the monuments of French typography must be reckoned the matchless collection of types of the Imprimerie Nationale. I should instance more particularly the separation into parts of the Chinese characters, invented and carried out by a Frenchman, in order to obtain results of which the Chinese themselves are not aware.

"*Printing Music.*—The printing and engraving of music have made most remarkable progress through the ingenious combination which our typographers have invented.

"*Expeditious Printing.*—The English have originated the continuous impression employed by the newspapers. An invention, which is now being perfected, will enable us to offer to London the means of obtaining, in the shortest space of time, the multiplication to an almost unlimited extent of the copies of a newspaper.

"French taste has carried to a great extent the branch of fancy printing for visiting cards and circulars of all kinds with the most diversified ornaments.

"*Lithographic Printing.*—Lithography, both plain and coloured, has made unceasing progress. We are enabled to shew works of the most varied kinds, which satisfy most thoroughly on the one side the cheapness demanded by ordinary trade, and, on the other, all that can be required by fine art in taste, elegance, grace, or power.

"England puchases from us yearly lithographs to the amount of nearly 40,000*l.*, that is to say, a larger value than all the books, foreign or English, that she borrows from our press.

"*Leather.*—After having seen what may be required, both as to paper and in those works of which paper is the principal material, let us now direct our attention to skins or hides, and what they can be applied to.

"*Tanned Hides, &c.*—England purchases from France our tanned and dressed hides, which are used by its bootmakers, this article alone yields an annual business of three millions of francs (120,000*l.*).

"*Morocco Leather.*—She appreciates equally our superior morocco leather. Even to this day, she finds it more advantageous to purchase our gloves than the lambskin of which they are made.

"*Gloves.*—The art of cutting and sewing gloves, both for men and women, is one in which we excel.

"*Harness.*—We possess, at present, the description of hides best adapted for the superior kinds of harness, and our first saddlers combine elegance of form with sound workmanship. We appeal to their spirit of enterprise to establish at the Exhibition

* "As the sense of the above seems obscure, we give the original French:—'Une partie considérable de ces effets est vendue à l'Angleterre. Inutile, au moins je pense, de donner cette arme contre nous à la douane Anglaise.'"

at London a well-deserved renown for the harness of France, even at the side of that of England.

"*Carriages.*—We call equally upon our most distinguished carriage-makers to send to London their town and travelling-carriages, executed in the most finished style of comfort, elegance, and solidity. They possess materials of most perfect quality, wood, iron, brass, leather, colours, and varnish. Let them exercise their good taste and experience, and they will appear with honour.

"*Hats.*—The hat-manufacture of France is at present as varied in the materials it employs as in the ever-changing forms it applies them to; the hat-manufacturer should, by strenuous efforts, attempt a competition, which it is in a condition to sustain with honour; to Paris and Lyons should be confided this task.

"*Straw Bonnets.*—The elegant work of straw-bonnet making in French straw may equal the fabrics of Florence; it has already made progress in the English markets.

"*Sickles, &c.*—We ought to have been able to export to England our sickles and scythes, if we were better acquainted with the particular excellence of the raw material, which should ever be considered as the element of definite success.

"*Goldsmiths' Work and Jewellery.*—Gold and silversmiths' work and jewellery are amongst the arts carried to the greatest perfection by the Paris workman. It is a glory to be sustained.

"Strange! almost all our imports of goldsmiths' work into England are wrought in silver; while, on the contrary, our jewellery that she buys is almost all in gold.

"*Clocks and Watches.*—The clockmakers of France sell annually to England clocks to the value of nearly 40,000*l.*, and of watches not one, either in or out of cases. The experiments in movements made by our manufacturers deserve a better fate; it is very desirable that they be exhibited.

"*Chronometers.*—The construction of chronometers is carried on at Paris with a perfection that will stand the test of the most minute experiments of our astronomers, and the proofs at the Observatory. Our chronometers should be exhibited to shew the state of precision to which France has brought this art.

"*Machinery.*—In the manufacture of machinery it is not the genius of invention that is wanting in France; it is the low price of the metallic mineral of which they are more and more composed, and especially of iron and steel.

"Notwithstanding this disadvantage, by economy of fuel and workmanship, and by means of certain kinds of machinery, we are enabled to export in this branch to the extent of half a million francs (20,000*l.*) a-year to England.

"*Locomotives.*—Our manufacturers construct locomotives which, even in price, are on a level with those of Great Britain; equal also in workmanship. Let us compete in *locomotives!*

"*Fire-Arms, Swords.*—We can exhibit also portable arms, guns, pistols, sabres, which combine every desirable quality; strength, precision, certainty in loading, elegance of form, goodness of temper, and taste in the ornaments. We have revived the manufacture of damasked arms; we equal in taste and richness the fine productions of Italy, Spain, and the East, even in the best eras of their works in this kind.

"*Surgical Instruments.*—The foreigner seeks our surgical instruments for their ingenious form, their perfect temper, and their comparative cheapness; we fear not to state that no people have done more for humanity than our own, by contriving new or improved instruments for the most varied and important operations.

"*Parisian Art-Manufacture.*—We will not enumerate the arts so various which constitute more particularly our Parisian trade. We know how the stamp of elegance, contrivance, or richness, characterises the works of the capital. We must make a selection of objects remarkable on the one hand for cheapness, on the other for richness, and always for taste.

"Turned ware, fancy trimmings and embroidery; fans, parasols, and umbrellas;—all these objects, representing millions, taken collectively, acquire importance.

"*Artificial Flowers.*—Let us not forget a branch of trade which, assiduously studied, rivals Nature itself; this is the production of artificial flowers in every possible variety. Of these, France sells to the extent of a million francs (40,000*l.*) to the foreigner; and England, with the United States, purchases more than half this amount.

"*Cabinet Furniture.*—In reviving the furniture of the Moyen age, and of the Renaissance, as also that of the period of Louis XIV., the joiner and cabinet-maker have taken a remarkable position in our export trade. England is by far our largest consumer, and it is her approbation therefore we should the more endeavour to obtain.

"*Mathematical Instruments.*—We are rivals with her in mathematical instruments, and in those of philosophy, optics, and astronomy.

"*Musical Instruments.*—Our musical instruments are worthy also of comparison. We desire to see appear in this Exhibition of London, by the side of our harps and pianos with the latest improvements, our violins, tenors, and violoncellos; it is allowed that our best makers manufacture these stringed instruments equally as well as the most celebrated old Italian makers. . .

"In wind instruments we can exhibit to England every size of the organ, from the small instruments intended for an oratory up to the magnificent tones which are fitted for a cathedral.

"*Military Music.*—It is especially in regard to military music that we can shew that a complete change has been effected by the improvement of old instruments, and the invention of new ones by France. The Horse Guards of England have borrowed from us these instruments for their band; it is a patent of excellence.

"The softest and deepest of these new instruments enrich the orchestras of our concerts and our theatres. At present, brass no longer triumphs over the soft harmony of our expressive music, in blunting by dint of noise the delicacy of our auditory senses.

"We have here a sketch, though certainly too incomplete, of the principal objects of our manufactures, which appear worthy of exhibition to the assembly of all nations.

"We are far from thinking that we have enumerated all the products, and all the means of production, which are worthy of competing at this Exhibition.

"In such a wide field of industry as that of France, most of the arts are continually progressing; the greater number, it is true, by degrees insensible to the superficial observer, some of them are almost daily signalised by an unexpected improvement. Not a year has passed since the products exhibited last summer at Paris were completed, they represent no longer the state of perfection of our works, and next year, in the month of May, the difference will be greater still.

"*It will be for the exhibitors of France to carry out for* 1851 *what they would do for our own Exposition of* 1854*—they must surprise us by bringing forward improvements and inventions of which we dare not yet claim the honour for our manufacturers.*"

Books.

COLLECTIONS TOWARDS THE HISTORY OF POTTERY AND PORCELAIN IN THE FIFTEENTH, SIXTEENTH, SEVENTEENTH, AND EIGHTEENTH CENTURIES. By Joseph Marryatt. Illustrated with Coloured Plates and Woodcuts.—John Murray.

THIS is a welcome book, written by an enthusiastic collector and connoisseur, which will interest and inform his brother collectors and connoisseurs. It will be generally useful and ornamental, and is a good book for the drawing-table, calculated to beget a higher and wider regard for the subject than fashion is likely to do in the mere possession of fine china; but it is a very different production to M. Brongniart's *Traité des Arts Céramiques* in all respects. It is not a work of philosophical pretension, extensive historical research, or profound scientific accuracy, but is a fair, general compilation, to which the author has superadded personal experience in those special classes of pottery in which he has made collections himself. The phrase, "History of Pottery and Porcelain," on the title-page is sufficient to shew that the author has not gone very deeply into his subject. It may be technically correct, but is hardly philosophical to imply that porcelain is not pottery. Is porcelain indeed anything but fine pottery of a peculiar manufacture? We naturally wished to test the accuracy of Mr. Marryatt's work by his account of English pottery, and we turned to his account of that of Staffordshire (p. 63). We were sorry to find it to be very meagre, and the illustrations copies of woodcuts in the *Illustrated News*, among which, as a specimen of "Crouch" ware, is placed a Delft plate, which, with the other objects engraved, happens to be in the possession of the writer of this notice. For his next edition, which we hope to see, we recommend Mr. Marryatt to study the examples of Staffordshire pottery of the collection of Mr. Enoch Wood, which are now deposited in the Museum of Economic Geology, a fact of which the author is aware. Mr. Marryatt justly devotes some space to a notice of the great hero of the Staffordshire potteries, Josiah Wedgwood, which will have an interest for every one:—

"This enterprising and successful man, who may justly be regarded as one of those who have most contributed to advance the potter's art, was born at Burslem, in Staffordshire, in 1730. His father, Thomas Wedgwood, as well as some other members of his family, had carried on the manufacture of pottery in that town for some

years; but it was of so inferior a quality, that it would appear to have obtained little or no vogue. Independently of the supply of porcelain from China for the use of the higher classes, England imported for general consumption large quantities of earthenware from France, Holland, and Germany, for domestic use.

"Josiah Wedgwood's education was very limited; and the low social position of the class from which he sprung may be gathered from the local historian, Simeon Shaw, who remarks that 'scarcely any person in Burslem learned more than mere reading and writing until about 1750, when some individuals endowed the free school for instructing youth to read the Bible, write a fair hand, and know the primary rules of arithmetic.' The little opportunity that Wedgwood had for self-improvement, is further indicated by the circumstance stated by Shaw, that, at the age of eleven years, his father being at that time dead, Josiah worked in his elder brother's pottery in the subordinate occupation of a thrower. Shortly after this, the small-pox, which left an incurable lameness in his left leg, so as afterwards to render amputation necessary, compelled him to relinquish the potter's wheel.

"After a time he left Burslem, and entered into partnership with an individual named Harrison, at Stoke; and during this partnership, which was soon dissolved, his talent for the production of ornamental pottery is said to have first developed itself.

"He then became connected with a Mr. Wheildon, with whom he manufactured knife-handles in imitation of agate and tortoise-shell, melon table-plates, green pickle leaves, and similar articles; but Wheildon, who was deriving considerable profit from other departments of the pottery business, was unwilling to embark in the new branches for which Wedgwood had so great a predilection. The young man, therefore, returned to Burslem in 1759, and set up for himself in a small thatched manufactory, where he made such ornamental articles as are mentioned above. His business being prosperous, he soon took a second manufactory, where he fabricated a white stoneware, and, subsequently, he established himself in a third, at which was produced the improved cream-coloured ware, by which he gained so much celebrity.

"Of this new ware, Wedgwood presented some articles to Queen Charlotte, who thereupon ordered a complete table-service; and was so pleased with its execution, as to appoint him her potter, and to desire that his manufacture might henceforward be designated 'the Queen's ware.'

"It was, however, from 1760 to 1762 that his most interesting discoveries took place. Six different kinds of pottery and stoneware made their appearance at the same time from his workshop in Staffordshire, to the astonishment and admiration of all connoisseurs.

"Wedgwood now opened a warehouse in the metropolis, in order that the productions of his ingenuity might become more generally known. In his partner, Mr. Bentley, who managed the business in London, he found a valuable coadjutor, whose extensive knowledge in many departments of literature and science, as well as his acquaintance with many eminent patrons of art, greatly assisted him in the higher branches of his manufacture, and especially in obtaining the loan of valuable specimens of antique sculpture, vases, cameos, intaglios, medallions, and seals, suitable for imitation by some of the processes he had introduced. Some persons intrusted to him valuable sets of Oriental porcelain, for the like purpose; and Sir William Hamilton lent specimens from Herculaneum, of which Wedgwood's ingenious workmen produced the most accurate and beautiful copies.

"While Wedgwood was prosecuting these branches of his art, the Barberini Vase (since named the Portland Vase) was offered for sale by auction; and, considering that many persons, by whom the original was unattainable, might be willing to pay a liberal price for a good copy, he resolved to purchase it. For some time he continued to offer an advance upon each bidding of the Duchess of Portland, until at length his motive being ascertained, he was offered the loan of the vase on condition of his withdrawing his opposition; and the Duchess became the purchaser at the price of eighteen hundred guineas. Shaw adds, that Wedgwood sold the fifty copies which he subsequently executed, at fifty guineas each, but that his expenditure in producing them exceeded the amount thus obtained.

"Wedgwood's success was not the result of any fortunate discovery accidentally made, but was due to patient investigation and unremitting efforts. He called upon a higher class of men than had usually been employed, to assist in his labours, and in prosecuting his experiments he was guided by sound scientific principles. Flaxman was one of the artists employed by Wedgwood in the preparation of models for the high works of art, among which may be mentioned a beautiful set of chessmen, which he was the first in modern times to execute in pottery.

"The fame of his productions and discoveries was such, that his works at Burslem, and, subsequently, at Etruria (a village erected by him near Newcastle-under-Lyne, and to which he removed in 1771), became a point of attraction to numerous visitors from all parts of Europe; while his talent and energy not only obtained for him extensive patronage and an ample fortune, but also greatly promoted the commercial interests of his country.

"The importance of the manufacture which he brought to so prosperous a state, is proved by the fact that, although many of the States of Europe had prohibited the admission of British earthenware, and others had loaded it with very high duties, five-sixths of the quantity which he made were exported; and his earthenware cameos were so esteemed by foreigners, that they were eagerly purchased by them, and may be found in many cabinets abroad amidst the most splendid specimens of Sèvres and Dresden porcelain.

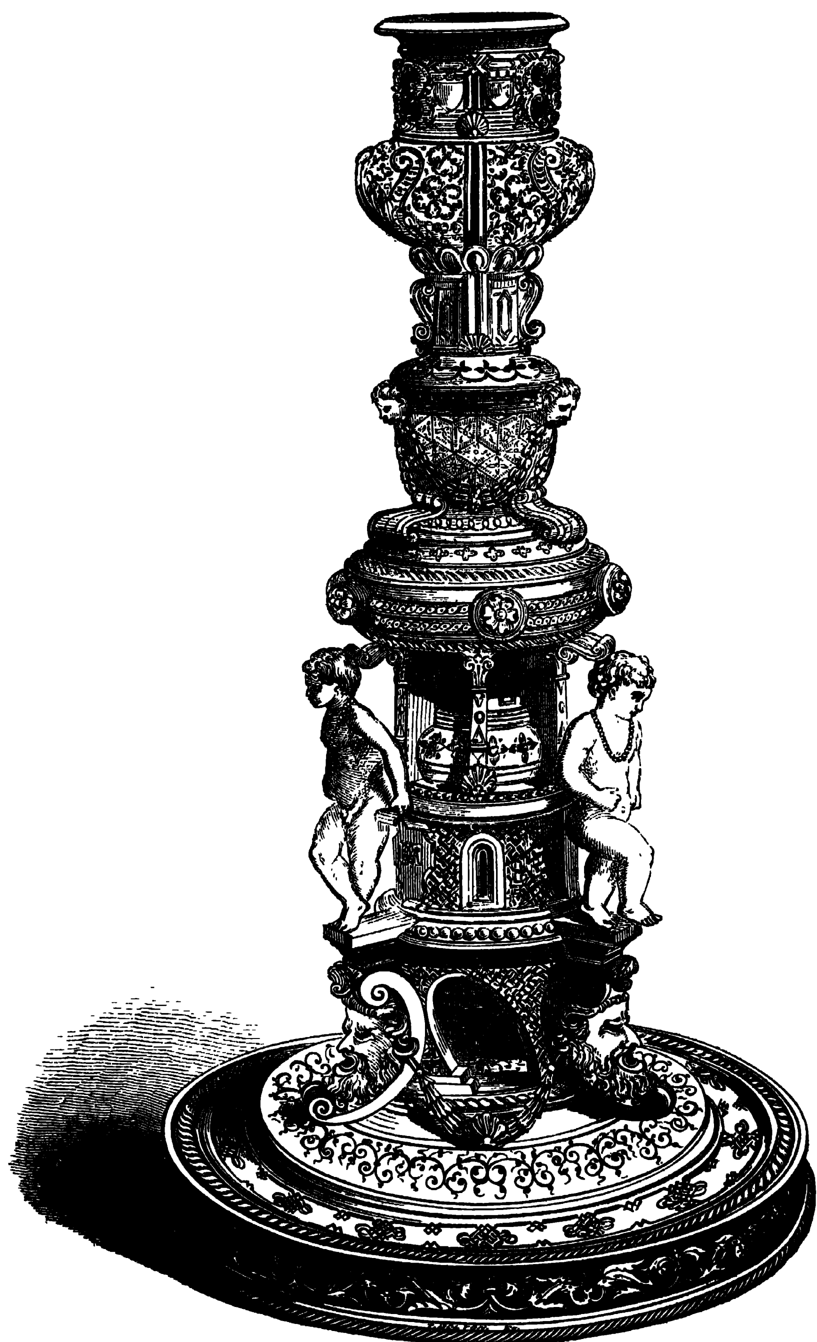
"Wedgwood was a Fellow of both the Royal Society and the Society of Antiquaries, as well as a contributor of several papers to the 'Philosophical Transactions.' He was also the inventor of a pyrometer for measuring very intense degrees of heat. In private life, he is said to have been most exemplary, and to have made liberal use of the ample means which his successful and honourable career placed at his disposal. He died at Etruria, where he had erected a handsome mansion, as well as manufactories and residences for his workmen, on the 3rd of January, 1795, in his sixty-fifth year."

The range of the work is extensive. The first chapters are devoted to accounts of the "soft pottery" of Italy, France, Germany, and Holland: then it deals with "hard pottery,"—stoneware; with the porcelains of the East and of Europe; and concludes with a chapter on the manufactures of Italy and Spain. The appendix gives a glossary of terms; the marks and monograms; chronological tables of the discoveries and progress of the keramic art; analyses of different kinds of pottery; and a list of private collections of china in Great Britain; all of which is valuable information, only to be met with scattered in various places, and here brought together for the first time in any English book. We will find space to quote a few general remarks from the Introduction:—

"The existence of pottery has proved of the highest value as an aid to historical research. From the pottery of the tombs, we learn the domestic manners of nations long since passed away, and may trace the geographical limits of the various great empires of the world. The extent of ancient Greece, of its colonies, and its conquests, is clearly to be traced through each division of the Old World by the Grecian funereal pottery, which, distinct in its character from that of any other, long survived the political existence of the Grecian empire. The limits of the Roman empire are, in like manner, deduced from the remains of the Roman pottery; beyond the spot where Arminius repulsed the Roman legions, no trace of Roman pottery has been found, and the frontier line of the Roman dominion in Britain is marked out in a similar manner. The extent of the Mahomedan empire in the Old World, and the Aztec dominion in the New, would alike be clearly pointed out by their pottery if no other record of their conquests had been transmitted to us.

"The keramic art has always been an object for royal patronage. The Chinese emperors obtained, by high premiums, the unrivalled manufacture of the egg-shell porcelain, and they enrolled the potter martyr in the catalogue of their deities. The Dukes of Urbino, by their liberal patronage, introduced the beautiful majolica; from Henry II. and Diana de Poitiers an unrivalled fayence derives its name, and that prince and his consort, Catherine de' Medici, developed the genius of Palissy; Augustus the Strong, Maria Theresa, Frederic the Great, and other reigning princes of Germany, both founded and brought to perfection at their own expense the porcelain manufactures of their respective countries; Russia owes the establishment of hers to Elizabeth and Catherine II.; Charles III. founded those of Capo di Monte and the Buen Retiro; Madame Pompadour, by her influence over Louis XV., brought the porcelain of Sèvres to its unrivalled perfection; while Dubarry gave her name to the most lovely colour it has produced; and William, duke of Cumberland, supported that of Chelsea, which unfortunately was abandoned, for want of encouragement, at the death of its royal patron. Even Wedgwood, who in general courted no extraneous aid, was fain to secure a certain number of subscribers to enable him to take the copy of the Barberini Vase, while his newly-invented earthenware was introduced under the patronage of Queen Charlotte, and bore her name."

We have engraved a most remarkable specimen of fine Fayence ware, the history of which we find fully given in Mr. Marryatt's work:—



(Fayence Candlestick, in the possession of Sir Anthony Rothschild, lately purchased for 4900 francs.)

"FINE EARTHENWARE (*Fayence fine*).—FRANCE.—The earliest fabric known is that mysterious and unique manufacture of the 'Renaissance,' the fine Fayence of Henry II. The manufacture of this ware, which was at once carried to a high degree of perfection, seems to have been suddenly and unaccountably lost, without leaving any record of where or by whom it was produced. By many it is supposed to be of Florentine manufacture, and to have been sent by some of the relations of Catherine de Medicis as a present to Henry II.; but it differs too essentially from Italian Majolica, both in the paste of which it is composed, and in the style in which it is decorated, to warrant such a conjecture. Italy does not possess in its museums a single specimen of this ware, and of the thirty-seven pieces extant, twenty-seven have been traced as coming from Touraine and La Vendée. Many antiquarians, therefore, infer that the manufacture was at Thouars, in Touraine, although the Fayence may have been the work of an Italian artist.

"But if the place of its manufacture is unknown, the pieces extant clearly attest the period of its fabrication. The Salamander, and other insignia of Francis I., are met with on the earlier specimens of this pottery; but upon the majority of pieces, upon those more pure in design and more beautiful in execution than the preceding, we find the arms of Henry II., with his device, the three crescents, or his initial H, interlaced with the two D's of the Duchesse de Valentinois. Indeed, so constantly do her emblems appear upon the pieces, that the ware, though usually designated as 'Faïence de Henri II.,' is sometimes styled 'Faïence de Diane de Poitiers.' Even her widow's colours, black and white, are the two which are employed in some of the finest pieces. They were the fashionable colours of the court, Henry wore no others during his life, and was attired in them in the fatal tournament in which he fell. Her *impresa*, the crescent of Diana, is conspicuous on his palaces, and he even caused it to be engraved upon his coins. From these circumstances we must, therefore, conclude that the manufacture of this ware began at the end of the reign of Francis I., was continued under that of Henry II., and, as we find upon it the emblems of these two princes only, we may naturally infer that it is of French origin.

"The paste of which this Fayence is composed is equally distinct from Majolica and Palissy ware. The two latter are both soft, whereas this, on the contrary, is hard. It is a true pipeclay, very fine, and very white, so as not to require, like the Italian Fayence, to be concealed by a thick enamel, and the ornaments with which it is enriched are simply covered with a thin, transparent, yellowish varnish.

"The style of decoration of this ware is unique. Patterns or arabesques are engraved on the paste, and the indentures filled with coloured pastes, so as to present an uniform, smooth surface, of the finest inlaying, or resembling, rather, a model of Cellini's silver-work, chiselled and worked in niello. Hence it is sometimes styled 'Faïence à niellure.' These patterns are sometimes disposed in zones of yellow ochre, with borders of dark brown, sometimes of a pink, green, violet, black, or blue; but the dark yellow ochre is the predominant colour.

"In addition to these elegant niello-like decorations, this beautiful Fayence is enriched with raised ornaments, in bold relief, consisting of masks, escutcheons, lizards, frogs, shells, garlands, &c.; in all of these the pink colour predominates. The forms of the pieces are always in the purest style of the 'Renaissance,' and are so finely modelled and so exquisite in execution, as to be compared with the chiselled and damascened works of the goldsmiths of the sixteenth century. They are usually small and light, and consist mostly of ornamental pieces,—cups, ewers, and a vase of peculiar form, to which the French have given the name of 'Biberon.' . . . . The most choice specimen in the cabinet of M. Préaux was the candlestick of which we give a figure,* and which was purchased by Sir Anthony de Rothschild for the sum of 4900 francs.† The surface is exquisitely enriched with arabesque patterns, either in black upon a white ground, or in white upon a black. The form is monumental, and in the finest style; three figures of genii support escutcheons, bearing the arms of France, and the double D. These genii stand upon masks, which are united by garlands enamelled in green. The top of the candlestick terminates in the form of a vase, and bears inscribed the *fleurs-de-lys* and the monogram of our Saviour. This piece, for delicacy of detail and beauty of execution, is unequalled by any specimen known of this exquisite Fayence. Sir Anthony de Rothschild also purchased at M. Préaux's sale a small cup, decorated in the same style, with the crescents interlaced, for which he gave 1300 francs. He, therefore, now is fortunate in having the finest collection known of this ware, as, in addition to the specimens already mentioned, he possesses two exquisite ewers of the Henry II. Fayence. One he purchased at the sale of the

* Half the size of our engraving. † Amounting, duty included, to about 220*l*.

Comte de Monville for 2300 francs; the other, with a curious handle of elaborate workmanship, he bought for nineteen guineas at Strawberry Hill, where he also purchased a tripod salt-cellar, supported with scroll ornaments, for 21*l.* These two pieces were described in the catalogue as Majolica and Palissy ware.

"Another choice specimen is in the possession of Hollingworth Magniac, Esq., of Colworth, near Bedford, who procured it from the collection of M. Odiot, of Paris. It is a ewer fifteen inches high, of perfect form, ornamented with masks; the surface entirely covered with arabesques in black and white, in which is constantly repeated the letter G, the meaning of which is not known. The handle is formed by a human figure reversed, the legs terminating in serpents' tails, which twine round the shell that forms the mouth of the ewer.

"There are five pieces of this ware in the cabinet of M. Sauvageot. One, a salt-cellar of pedestal form, at each corner of which stands a little genius supporting the arms of France. There are, also, two specimens in the Louvre, two in the Musée Céramique at Sèvres, and the remaining pieces are mostly to be found in the collections at Paris."

Let us add that this is a book which it will be useful to place in the libraries of the Schools of Design.

Institutions.

SCHOOL OF DESIGN.

The Board of Trade, notwithstanding the past career of Mr. Poynter in connexion with the School, his remarkable aptitude for putting the Schools into hot water, and his disingenuous evidence before the Committee of the House of Commons, has again been so venturesome as to reappoint him inspector of the Provincial Schools. We long ago understood that the Board of Trade, in contemplating this appointment, at a salary of 500*l.* a year, had laid it down as an absolute condition that, if Mr. Poynter undertook the office he must give up that of referee under the Metropolitan Buildings Act, the salary of which is also 500*l.* a-year, due performance of the duties of both offices by the same individual being held to be clearly impracticable. It was generally asserted that during his candidateship Mr. Poynter had expressed his assent to the relinquishment of his building refereeship as a condition of his appointment to the School of Design inspectorship. We are, therefore, astonished to find that, at the end of last month, Mr. Poynter was formally appointed to the inspectorship by the Board of Trade without relinquishing his other office, his appointment and salary having, in fact, commenced, we understand, some months ago. It appears, then, that during this period Mr. Poynter has been holding both appointments, and receiving both salaries, amounting to a thousand a-year of public money; and that he continues to hold these two appointments. One, be it observed, requires his constant presence in London, and his attendance on certain days of the week at the office of the Metropolitan Buildings Commission in the Adelphi; and the other as constantly requires his presence in the country, and his frequent attendance at not less than eighteen School establishments in various parts of England, Ireland, and Scotland.

Let our readers turn to what we said last month upon this subject. Let the declaration we quoted of the Lords of the Treasury be referred to, that above all things they would have an efficient system of inspection of the country Schools, and then let it be considered how impossible it is that Mr. Poynter can efficiently and trustworthily carry on this inspection while he has not only a full amount of other occupation in London, in the duties of another public office, but all the professional engagements he can obtain as an architect. It must be quite obvious that all the defects and wants, all the circumstantial facts and proceedings, of each of eighteen School establishments all over the kingdom, cannot be constantly observed and carefully considered by an otherwise urgently busy official, who is resident in London, giving now and then merely occasional attention to these School affairs, when most convenient to him to devote a little spare time for this purpose. These Schools ought to be visited regularly each twice a-year, and certainly a week to each School would not be too much, if the inspector duly performed his duties of examination and placed himself properly in communication with all parties, manufacturers, &c. At once, then, there is occupation for thirty-six weeks in the year, besides the time required for special and occasional inspections. We assert that it is not by means of hurried visits, hasty

snatches of attention, and reports of generalities, that the system of Schools of Design, for which the Board of Trade is responsible, can be rightly understood and properly administered; and we are sure that, in this opinion, we have with us every intelligent well-wisher of the cause of art-education in this country,—every one who knows how difficult and delicate a task it is to bring about, by means of the instruction given in these Schools, the desirable improvements in taste that affect the vested interests of so many manufacturers, and the established prejudices of so many uneducated purchasers. The indispensable conditions and qualifications required for efficiently inspecting such a system of newly established and experimental schools of art are, constant if not exclusive devotion to the business, possession of special artistic knowledge and skill, experience in teaching, and the power of critically perceiving and comparing faults and excellencies in drawing and painting, with regard to all the studies pursued in these Schools. It is surely as necessary that an inspector of schools of decorative art should be a painter as that inspectors of grammar-schools should be required to be, as they are, classical scholars. A greater absurdity is hardly conceivable than that of requiring of a mere architect oracular judgments on the state and progress of schools for freehand drawing and painting, and the study of the human figure, animals, plants, flowers, and landscapes for the ornamentation of manufactures. It is no disparagement to Mr. Poynter as an architect to say that he cannot report critically upon drawings of the human figure, and upon exercises on all the modes of ornamental painting, never having given any sign that he can practise either. The disparaging fact consists in his undertaking, in consideration of a large salary, to affect to perform duties to which he cannot possibly devote sufficient time, and that necessarily include such critical judgments as only practical painters can safely venture to pronounce. These artistic duties we have reason to believe are consequently shirked off upon the head-masters at Somerset House, who, it seems, receive neither pay nor thanks for relieving Mr. Poynter of them.

Such appear to be the facts of the case at present. In a short time the public will be supplied with some additional materials of information, for we are glad to see that Mr. Milner Gibson has not forgotten this subject, and that the following papers, in continuation of the Report on the School of Design, made in 1849, have been ordered to be printed by the House of Commons:—1. Copies of all reports on the state of the Head or Provincial Schools, made to the Board of Trade since August 1849. 2. Return of all the appointments of Masters and otherwise to the Head School and Provincial Schools, since August 1849. 3. Copy of any minutes of the Board of Trade affecting the management of the School, passed since August 1849. 4. Return of the subscriptions and donations to the Provincial Schools in the year 1849, and the amount of the debts or liabilities (if any) of each School. 5. A return of all expenses incurred in the inspection of the Provincial Schools, the number of inspections made to each School, the date when made, and the period over which the inspection lasted. All which, we are happy to see, were accordingly laid upon the table of the House of Commons on Thursday, the day of prorogation, and were ordered to be printed. On the publication of these reports and papers we shall probably have occasion to make some stronger remarks upon the inefficient inspection and very anomalous arrangements of the country Schools.

Retirement of Mr. Northcote.—It is well known that this gentleman, since Mr. Lefevre left the Board of Trade, had been the active manager and occasional inspector of the Schools of Design, and it is now officially announced that he has retired from his office. Our readers will recollect that we have too often had occasion to differ from the views which Mr. Northcote has expressed on the system of managing the School; but we must do him the justice to say, that but for his zeal and attention to the subject, we think the School would have been in a far more unsatisfactory state than it is; and now that Mr. Northcote is gone, we only foresee that the School is likely to be permitted to flounder in a course of absolute self-management, until the natural results of such an anarchy follow, and another phase of reform has to be tried.

Who at the Board of Trade, now Mr. Northcote has resigned, will give any special attention to the affairs of the Schools of Design we know not, unless the philanthropic Mr. Porter become interested in the welfare of these institutions, as forming an item of some importance in the educational statistics of his "Progress of the Nation."

Society of Arts.—The annual general meeting was held on July 31, when the financial statement was presented, by which it appeared that the ordinary revenue had increased nearly 350*l.*, whilst

the extraordinary (owing to the success of the Mediæval Exhibition) had yielded a net profit of more than 600*l*. It would, therefore, appear that the Society for many a year has never been in so prosperous a condition as it now is. With the view of aiding the Great Exhibition, the council have offered various prizes and medals for treatises illustrating its uses and advantages. A prospectus of the prizes may be obtained of the secretary.

Triennial Exhibition of the Royal Dublin Society.—It will be admitted by all who have had experience of the exhibitions of manufactures of this Society, that the exhibition of this year is very far superior in every respect to any of its predecessors. It is far more extensive, far more comprehensive, and far more catholic,—now including the productions of all countries for the first time, whereas hitherto the Society thought it would be the best course to improve its own manufactures by forbidding Irishmen to study in its walls any productions but their own. The example of the Exhibition of 1851 taught them better, and the Society has every reason to rejoice that it has followed it. In fact, this exhibition is a sort of "counterpart in little" of the monster show in 1851, comprehending raw produce and materials, machinery, manufactures, and fine art. Excepting the strictly agricultural produce, the department of raw materials is very limited. The machinery—for the most part exhibited in motion—has deservedly excited great interest, especially that which illustrated the process of preparing flax. We were glad to see that Mr. Whitworth, of Manchester, had sent one of his beautiful planing machines, and also his knitting machine, which imitates in a most simple and ingenious way the action of knitting by the hand. Mr. Edmonds exhibited his railway ticket-printing and counting machine, which prints and counts at the rate of 400 tickets a minute! A locomotive, with a sort of instantaneously stopping drag, was shewn *in motion* out the building. Mr. Fairburn, too, sent specimens of various machinery, and we believe generously lent a steam-engine to work it. The variety of manufactures was considerable, more so than we have witnessed in any previous exhibition, and, in respect of those productions which are almost wholly native, such as poplins and tabarets, and the manufacture from flax, was highly creditable. If Belfast properly bestir itself for '51, its exhibition of flax productions, taken as a whole, is likely to be unique. Excepting guns, and carriages, the solid manufactures exhibited at Dublin were chiefly old acquaintances, from the Adelphi exhibitions in London, from Birmingham, and from Manchester. Not being able to be very stringent in their rules for punctuality, many articles were sent in after time, and occasioned both confusion and disorder in the arrangement,—if arrangement it could be called, which mixed together linens and goldsmiths' work, embroidery and castor-oil. We were glad to see that the exhibition was thronged with visitors, and we heard that it was likely to repay the outlay which had been made in forming the collection. The occasion of this exhibition induced the Royal Commissioners for '51 to send a deputation, in order formally to organise the Local Committee for Dublin. A very full and enthusiastic meeting was held in the theatre of the Institution and an influential committee formed, which we hope will exert itself to see that Irish industry takes its proper place in the great Exhibition. There can be no doubt that this, the most successful of the triennial exhibitions that have been held in Dublin, will be an excellent preparation both to exhibitors and visitors for the greater show in 1851. The Exhibition closed 15th August, when the prizes were distributed in the presence of Lord Clarendon.

Miscellaneous.

The Progress of the Great Exhibition is in the highest degree satisfactory. The iron castings for the columns of Mr. Paxton's chrystal palace are being delivered thus early on the ground, and in a week or two a thousand men will be in busy operation. The demands for space are pouring into the Executive, and we believe that the Manchester Committee has received a guarantee assuring it 10,000 superficial feet to the representation of its machinery. Meetings of the metropolitan local commissioners have been held at the Westminster Palace; the demands for space in the metropolis were examined by them, and where any department was found deficient the utmost alacrity and desire were manifested to supply the hiatuses. The space demanded by the Metropolitan Committees up to August 1, is 27,774 superficial feet of floor or table space, and 24,243 superficial feet of wall space, made by 509 Exhibitors. The Commissioners have

lately issued several most important decisions. On the subject of SPACE they have notified that,—"53. All persons desirous of contributing Articles for the Exhibition of 1851, must give *immediate notice* of such intention, and transmit a general description, in the form annexed, of the nature of each article, and the space which will be required for the exhibition of it, to the Secretary of the ——— (*nearest*) Local Committee. 56. A register of the names, and the particulars thus sent, will be made by the Local Committees, and must be transmitted by them to Digby Wyatt, Esq., *on or before the* 31*st of October*. 60. Intending Exhibitors should bear in mind that it will be necessary for them to obtain the certificate of the nearest Local Committee of its approval of the articles sent for exhibition before they can be received for examination by the Commissioners in the building." We believe arrangements have been concluded for obtaining a large supply of water from the Chelsea water-works, and accordingly the Commissioners intimate that they will "supply water at a high pressure gratuitously to Exhibitors, who will have the privilege of adapting it to the working of their machinery, &c. 21. Packing-cases in which articles are brought to the building must be removed at the cost of the agent or exhibitor, as soon as the goods are examined and deposited in charge of the Commissioners." It is obvious that if this removal of the packing-cases were not peremptory, the size and cost of the building for providing additional floor space would have to be largely increased.

We apprehend the following notice will be very acceptable, and we understand that in carrying out the arrangements for ENABLING the WORKING CLASSES to visit the Exhibition, Mr. A. Redgrave has already commenced his labours:—"With the view of affording information, a register has been opened at No. 1 Old Palace Yard, Westminster, by the Secretary of the Executive Committee for the Exhibition of 1851, in which will be entered the names and addresses of persons disposed to provide accommodation for artisans from the country whilst visiting the Exhibition next year. Copies of this register of lodgings and accommodation will be furnished to all the Local Committees. Other arrangements are under consideration for guiding the Working Classes on their arrival by the trains to the lodgings they may select. The register contains a column in which the nature, particulars, &c., of the accommodation each party proposes to afford will be entered. All applications for participating in these arrangements must be made through Local Committees. It must be clearly understood that whilst Her Majesty's Commissioners are desirous of collecting the fullest information likely to be serviceable to the Working Classes, they do not propose to charge themselves in any respect with the management, but simply to afford information."

THE EXHIBITION BUILDING.—At a successful meeting at Bakewell to support the Exhibition, the author of the building to be used in 1851, Mr. Paxton, has given an account of its origin and general features. He said:—

"That until there was a great squabble in the newspapers about the site and plans for the proposed Exhibition, he never turned his attention to it. He naturally thought that as three of our most eminent engineers and our best architects were upon the Building Committee, some design would be produced worthy of this great country, and the purpose for which it was intended. It was not until disputes and complaints arose that he (Mr. Paxton) directed his attention to the subject, but the moment he did, he resolved, without knowing anything of any other plan or even obtaining a prospectus, to attempt something which he thought suitable for the occasion. It was not for him to speak of the merits of his design; he would leave the unanimous selection of the six well-qualified gentlemen who acted as the committee to speak for itself. He would confine himself to a few particulars regarding the dimensions and construction. The building would be 2100 feet by 400 broad. The centre aisle would be 120 feet broad, or 10 feet wider than the Conservatory at Chatsworth. When he commenced designing this building, he knew that so vast a structure as this must necessarily be made as simple as possible in its details, else it would be impossible to carry it out. He therefore endeavoured to make it up with as few details as possible. The glass and its iron supports comprised the whole structure. The columns were precisely the same throughout the building, and would fit every part; the same might be said of each of the bars; and every piece of glass would be of the same size, namely, 4 feet long. No numbering or marking would be required, and the whole would be put together like a perfect piece of machinery. Mr. Paxton explained that the water is brought down valleys on the roof and thence down the columns; that the water in no instance has further than 12 feet to run before it is delivered into the valleys or gutters; and that the whole is so constructed as to carry the water outside, and the condensed water inside. The building is divided into broad and narrow compartments, and by tieing these together there is little for the cross-ties of the centre to carry. The building is entirely divided into many 24-feet squares —in short, everything runs to 24, so that the work is made to square, and fit without any small detail being left to carry out. The number of columns 15 feet long is 6024; there are 3000 gallery bearers; 1245 wrought-iron girders; 45 miles of sash-bars; and 1,073,760 feet of glass to cover the whole. The site will stand upon upwards of 20 acres of ground, but by an arrangement of Mr. Paxton's, the available space which may be afforded by galleries can be extended to about 30 acres, if necessary. In so far as merit was concerned, in his (Mr. Paxton's) opinion the plan occupied a secondary position

in comparison with the execution of it, and which would speak volumes in favour of the ingenuity, perseverance, and industry of Englishmen. The plan, as he had shewn them, was simple enough; but their surprise, if they could form any calculation of the gigantic size of the structure, would be great indeed when he told them that the whole would be covered in by the 1st of January next, and he was as firmly persuaded that it would be accomplished to the day as he was sure he was addressing that meeting. That fact alone would shew the skill and industry of Englishmen. He proceeded to state that the gallery of the building would be 24 feet wide, and would extend a distance of nearly six miles? Now if, after the purposes of the Exhibition are answered, it was thought desirable to let the building remain—and he sincerely hoped it would not be pulled down nor shipped to America,—if they chose to let it remain, see to what purpose it might be applied. There might be made an excellent carriage drive round the interior, as well as a road for equestrians, with the centre tastefully laid out and planted, and then there would be nearly six miles of room in the galleries for a promenade for the public. With regard to the ventilation and the rays of light, he would say that the former was a very peculiar part of the plan. The whole building four feet round the bottom will be filled with louvre or 'luffer' boards, so placed as to admit air but exclude rain. On the inside of that there will be a canvass to move up and down, and in very hot weather it may be watered and the interior kept cool. The top part of the centre building is put up almost entirely for the purposes of ventilation; and he thought it would be found that if he had erred at all in respect of the means of ventilation, there would be found too much rather than too little. By covering the greater part of the building with canvass, a gentle light would be thrown over the whole building; and the whole of the glass at the top of the northern side of the building would give a direct light to the interior. If more light was wanted, the means of affording it were provided. It was, in short, impossible to devise a plan better calculated for the purposes of light and ventilation."

COMPETITION IN 1851.—In answer to an inquiry made by the Manchester Committee, in which they request to know whether "Articles marked *not for competition* would be admitted to the Exhibition," the Commissioners have replied as follows:—The Commissioners apprehend that the medals to be awarded by the juries appointed for this purpose would lose much of their honorary distinction if permission were given by which articles of high merit would be excluded from the reward justly due to them. The exhibitors who transmitted "articles not for competition" may be supposed to be those who, having acquired a reputation for excellence of manufacture, did not wish to hazard that reputation by a possibly unsuccessful competition. There would, therefore, be a contingency that in certain classes articles only of inferior manufacture might be the subjects for reward. The Commissioners perceive that very grave evils would result from distinctions thus conferred on articles of inferior merit, by misleading the public opinion and withdrawing their attention from works of greater excellence. It is also probable that the possessor of such medals, thus necessarily conferred on inferior works, might so use the award as to injure the manufacturers of superior merit who declined to enter into competition with him, and the Commissioners further think that absence from the exhibition of the articles of the skilled manufacturer of reputation would act still more prejudicially on his interests than his presence in a non-competitive department. The Commission apprehend that some misconception has attached to the term "competition." According to their decisions, the money prizes, except in the cases of workmen, or in special instances in which it may obviously be desirable, are not to be given. It is the intention of the Commissioners to reward excellence in whatever form it is presented, and not to give inducements to the distinctions of a merely individual competition. Although the Commissioners have determined on having three medals of different sizes and designs, they do not propose to instruct the juries to award them as first, second, and third in degree for the same class of subjects. They do not wish to trammel the juries by any precise limitation; but they consider that the juries will rather view the three kinds of medals as a means of appreciating and distinguishing the respective characters of the subjects to be rewarded, and not of making distinctive marks in the same class of articles exhibited. By this arrangement individual competition would be much lessened, while a general emulation in industry would be increased and secured. The Commissioners wish it to be fully understood that they are desirous, as they have already expressed themselves in the 107th decision, "to reward all articles in any department of the exhibition which may appear to competent judges to possess any decided superiority, of whatever nature that superiority be, in their own kind." They fully recognise that excellence in production is not only to be looked for in high-priced goods, in which much cost of labour and skill has been employed, but they encourage the exhibition of low-priced fabrics, when combining quality with lowness of price, or with novelty of production. They can readily conceive that juries will be justified in giving the same class medal to the cheapest calico print made for the Brazilian or other South American market, as they would to the finest piece of *mousseline de soie* or *mousseline de laine*, if each possessed excellence of its own kind. The Commissioners being thus anxious to reward excellence, wherever

it presents itself, by a general emulation and not by individual competition, and being at the same time desirous not to injure the skilled manufacturer by rewarding objects of inferior merit, because they only happen to be in competition, trust that the Manchester committee will approve of their opinion that articles should not be received into the Exhibition if marked "not for competition." The unanimous and cordial approval given by the delegates of the manufacturing towns at the meeting of the 28th June, to the plans suggested by the Commissioners for obtaining jurors well skilled in the various branches of industry comprised in the Exhibition, lead the Commissioners to hope that they have succeeded in devising means by which the most ample security is given that excellence of production will always be recognised and appreciated.

If our designers would receive a practical lesson, how strictly subordinate decoration should be to utility, they may usefully visit the CHINESE JUNK, which has been brought into the heart of London by its removal to the wharf in Essex Street, in the Strand. The ornamentation of this rude bark is not very elaborate or extensive, but where it is used it is modestly in a subordinate position, as it ought always to be.

The ARCHÆOLOGICAL INSTITUTE announce that, instigated by the success of the Mediæval Exhibition at the Society of Arts, they contemplate forming a CENTRAL MUSEUM OF ANCIENT ARTS AND MANUFACTURES, to be held in London simultaneously with the Great Exhibition of '51. If sufficient space can be found, they suggest that a collection of paintings, illustrative of the early advance of the art especially in Great Britain, might be added. We are sceptical if many British paintings before the reign of Henry VIII. of much artistic interest can be collected; but we shall be glad to have our doubts removed. We may here remark that the Council of the Society of Arts have elected Mr. A. Franks an honorary life member, in acknowledgment of the valuable services he rendered as honorary secretary to the Mediæval Exhibition.

One of the most striking objects of the Birmingham Exhibition was the GLASS CANDELABRUM OF MESSRS. OSLER (engraved in vol. ii. p. 57). We believe Messrs. Osler were reserving this brilliant specimen of their work for '51; but we are glad to hear that the Nepaulese princes have become the purchasers of it, and therefore afforded an opportunity for Messrs. Osler to eclipse even this creditable effort. This is a class of manufactures in which the English will stand unrivalled. We shall be glad to hear the rumour confirmed, that they are about to produce a glass fountain, in connexion with Mr. Paxton, for the great Exhibition.

THE GOVERNMENT TESTIMONIAL TO SIR ROBERT PEEL.—We suggested in our last number that it were well that the selection of memorials to Sir Robert Peel, and of artists to execute them, should be put off until the Exhibition of '51 might be consulted, as it would doubtless contain the finest modern examples of sculpturesque and decorative art, and therefore would afford good opportunities of selecting modes of treatment and artists to carry them into execution; and thereby avoid the invidious and futile course of calling special competitions. We find that this idea simultaneously occurred in another quarter, among the sculptors themselves, many of whom, with respect to the proposed Government testimonial, have already presented, or are about to present, a petition to Government, praying them to defer their selection of a design or a sculptor until after the great Exhibition. We hope that their reasonable petition will be granted; and we further add, that we see at present no reason why the execution of the Government testimonial to Sir Robert Peel might not be given as a direct prize for merit in the department of Sculpture on that occasion. It would be an additional inducement for all in that branch of art to exert themselves to the utmost.

JOBSON'S PATENT STOVES.—Sir,—My attention has been called to an article in your June number upon my patent stove-grate, from which you appear to consider that only one sort of reflector (the parabolic) is used. I need only refer you to Messrs. Jobson and Co.'s advertisement in the same number to shew that, for certain positions, conical reflectors are recommended, and one of that section will have the same effect upon the heat of the fire as the "frustrum of a pyramid," suggested by you; and it must be obvious to all practical men that the former is much more easily manufactured. I must add, that the sections named above are not the only ones used, the curves being varied to suit the room and the situation of the fire-place.

ROBT. JOBSON.

Original Papers.

EXCISE IMPEDIMENTS TO DESIGN IN WEAVING.

MANUFACTURERS well know what a fearful incubus on the advance of British glass manufactures was the Excise duty, which Sir Robert Peel abolished, and how rapid and sudden has been the improvement in all branches of ornamental glass since the duty has been removed. At the present time the progress of weaving is nearly as much impeded by the duty on card-board as glass used to be. We have already noticed this grievance (vol. i. pp. 132, 167), and our attention has recently been called again to the subject by the correspondence which has just passed between Mr. Kerr of Paisley, the Treasury, and Board of Manufactures in Edinburgh.

The Excise duty on paper is levied by weight, and though it oppresses, more or less, *all* manufactures with which paper is connected, it bears peculiarly heavy on those where paper or card is merely an instrument in the production, as in weaving, but is not the article itself ultimately sold. For in weaving the weight of the card is necessarily very considerable. In proportion as the pattern is elaborate, so are the number of cards and the weight of the card-board, and consequently the amount of duty.

Mr. Kerr, of Paisley, being laudably desirous of demonstrating his skill in shawl-weaving in the great Exhibition of next year, appealed to the Treasury for the remission of the duty in the particular instance of the articles which he might produce for that occasion. His facts were good and his arguments indisputable, but his mode of bringing them forward peculiarly injudicious, and we are not surprised that "my lords" declined to comply with his request, reasonable as it was. Mr. Kerr, in the midst of superfluous comment, said,—

"Your lordships are aware, that, in the fitting up of designs or patterns for Jacquard looms, large quantities of card-paper are used, and that on such paper there is charged *in this country* a duty to Government of 1½*d.* per lb.

"I find one of the designs I have it in contemplation to prepare for the Exhibition would cost, before a single shawl could be produced, 470*l.*—of which the sum of 92*l.* 15*s.* would be duty to Government, or a tax not less than 20 per cent on the mere preparation and fitting-up of the design. In numerous instances such preparation of designs is entirely experimental, as the pattern may not take, and it would be unprofitable to proceed with it. In such cases the duty in question becomes a tax, not on gain but on actual loss sustained by the manufacturer in his business.

"The following are the particulars of the cost of the proposed pattern:—

424,000 cards, at 12*s.* 3*d.*, inclusive of duty	£260
Cutting, lacing, needling, and twines	130
Drawing and designing	80
	£470

Duty on 14,840 lbs. card-paper, at 1½*d.* per lb... £92 15*s.*

"Now, in foreign countries, especially in France, where Jacquards are principally used, no such duty is imposed on the manufacture of shawls. On the contrary, it is the policy of the French Government to encourage the art of design; and one main cause of the excellence of the French shawl manufacture may be held to be the exemption of the trade from all such obnoxious imposts. . . . .

"What I have, therefore, respectfully to solicit is, that your lordships will have the goodness to authorise a removal or drawback of the particular duty I have specified, and of all duties on card-paper used in designs for the Exhibition of 1851 by the shawl manufacturers of Great Britain, so that we may be placed on a somewhat equal footing of competition with foreign manufacturers."

We have said that Mr. Kerr's mode of addressing the Treasury was prejudicial to his cause. Instead of quietly submitting a plain statement of facts, he began his official letter with a scriptural quotation, which might, perhaps, be admissible if he were addressing a remonstrance to a bishop, but is hardly calculated to insure attention from a Government department.

Failing with the Treasury, Mr. Kerr then addressed the Board of Manufactures at Edinburgh, and although he was very near enlisting them as his

allies, he ended with a controversy, and could get no assistance in that quarter. At last he appeals to the *Glasgow Daily Mail*, and the pith of his letter is in the following passage:—

"British shawl manufacturers are invited and expected to compete with foreign manufacturers at the Exhibition of the Industry of all Nations in 1851. To encourage foreign manufacturers, it has been resolved that the import duty of 10 per cent *shall be remitted on the occasion in their favour.* I have shewn in the correspondence that British manufacturers are specially burdened with a duty of not less than 20 per cent on the paper used in designs—a duty from which foreign manufacturers are wholly free. But on applying for remission of this duty for the occasion, on behalf of British manufacturers, *the application has been refused!*"

The grievance of which Mr. Kerr very justly complains is one common to the manufacturers in Spitalfields, Norwich, and other places where the Jacquard loom is used; and we know that it seriously disheartens them, not only in producing fine works for the Exhibition, but is fatal to the progress of ornamental design in all departments of silk and worsted weaving.

It is quite contradictory that Parliament should vote 12,000*l.* a-year to stimulate Design in Schools, and at the same time check by heavy duties the use of the instruments essential to working out Design. It is like killing the golden goose. Besides it does not seem quite fair to remit the payment of duties on foreign articles sent to the Exhibition—a very right measure—and still keep up the full duties on our own productions. We admit that it would be impossible to change our whole Excise system to promote the Exhibition; but it is by no means difficult to grant exceptional favours where they amount to so positive a sum as a hundred pounds, and are so easily reckoned, as in Mr. Kerr's case.

We feel sure that if the manufacturers of Spitalfields, Norwich, and Paisley, will only make up their minds and summon perseverance to pursue a temperate and judicious course, they may succeed in obtaining a remission of the Excise duty on weaving cards; and we will offer them a little practical advice how to do so. In each place where the grievance pinches let there be a committee of five persons constituted, and a common fund formed. *Each* committee should send its own *separate* requests to the Board of Inland Revenue, to the Board of Trade, and to the Treasury. They should *not write simultaneously, but one after the other,* communicating to each other the answer each one receives, for their mutual guidance. This may be done as soon as practicable. A polite refusal is likely to be the result; but no matter, it is only a necessary stage in accomplishing success. As soon as the Government vacation is over—say about the middle of next November—let a deputation of three persons from each place come up to London: each deputation should write and request a meeting, first, of Mr. John Wood, chairman of Inland Revenue, who will not be able to promise much or do anything, but the visit to him is necessary, as his opinion and advice will be asked by the Government, and ultimately be followed. As Mr. J. Wood is a reasonable and liberal man, if the duty is to be remitted he must first be convinced of the right of the course. Having seen Mr. J. Wood, then an interview should be sought with Lord Granville as Vice-President of the Board of Trade: it will be the fault of the deputations if they do not make a favourable impression here, for they will find Lord Granville quite ready to be convinced by good reasoning and liberal in intention; and if they they are not successful at this stage, which is hardly to be expected, then each deputation will have to seek the Chancellor of the Exchequer. But still they may fail, and must be prepared accordingly, and not disheartened. The next course of proceedings must be to obtain the services of their respective representatives, who must be enlisted to go through the same series of visits to Mr. J. Wood, Lord Granville, and the Chancellor of the Exchequer, accompanied by *only one* of each deputation, the members going separately. By this time, in all probability, there will be palpable symptoms that the Government mind has been moved; and if these are properly observed, and advantage taken of them, "my lords" will be prepared to comply

Cheap English Paper-hanging,

Sold by G. J. Morant, New Bond Street, London.

Simple as the above arrangement is of the *fleur-de-lis*, which has been the common property of designers for five centuries at least, this paper will be found very effective in a moderate-sized room—a great deal more so than many others higher priced and more pretentious.

Journal of Design, No. 19. September, 1850.

with the prayer of the "memorialists." We will gladly record the existence of and assist any local organisations to release ornamental designs from this incubus.

COMPETITIONS FOR DESIGNS.

(Concluded from page 6.)

THE evils and errors of competitions afford too large a subject for our space to allow us to go at all fully into their details. It has, however, been a field so prolific of injustice and absurdity, that we doubt not that the recollection of any one of our readers will furnish him with various instances of ignorance apt enough to the present discussion. There is one pretty common to all, which we will mention. The committees are seldom aware of a simple, but important principle, that difference of effect is produced by difference of scale, and that what will look very well small will not do so when much enlarged. Thus the design of a building or a sketch of a statue may look very pretty on paper and in a small model, which would not be appropriate or look well as an actual structure or statue of the proposed size. What has a pleasing appearance on paper may have defects which prevent its looking well in execution, and most frequently does a sketch of a figure please in small which would not only not be satisfactory as a large work, but which has some inherent quality that would render it wholly unfit for execution on the scale intended. Among the very pretty statuettes produced by our ingenious neighbours, the French, it is very rare to meet with one that would pleasingly enlarge to the full size: and it by no means follows, that because a statuette is pleasing it would enlarge to a good statue. Moreover, a very pretty sketch or small model may be produced by a kind of talent incapable of producing a noble and useful building, or a dignified and perfected statue, as has been often proved. We have alluded to this as one of the necessary considerations that rarely enters into the "crania" of the adjudicators as of any importance, and it is a specimen of the usual shortcomings of these irresponsible individuals. Where judgment is wanting, or attention not given, fraud and interest, not merit, become the frequent, though unworthy deciders. It cannot be concealed, indeed, that the prevalent competitions for individual works are fallacies! This is so thoroughly felt that the best men are most averse to competing. This leads us to another fact, that on any occasion when they are forced into it by circumstances, they can hardly act as free agents, being, among other things, so trammelled with the reigning fashion or crotchet of the time—for the public has its temporary crotchets as well as individuals—that the nation at large does not obtain the full advantage of their talents and experience, inasmuch as they feel themselves obliged to humour such crotchets to give themselves a full chance of success. At the time that the competition was held for the rebuilding of the Houses of Parliament, Gothic was in a state of vigorous resurrection and was the rage, and designs in that style had an undue advantage, one not founded on calm reason, over those in other styles; or we do not believe that the very eminent, sound, and accomplished architect, who was successful, would have chosen a manner for his great work which, though well fitted for a small portion of a building, such as an individual chapel where restoration would not be of enormous expense, is most unappropriate to an unecclesiastic building of vast extent, such as the New Palace at Westminster. Were it not that, when forced into competition, an artist competes of course to obtain the work, and not merely to exhibit his opinions and do his best, we believe that the design of the architect in this case would have possessed more the simplicity and massiveness of Greenwich Hospital than the decoration of Henry the Seventh's Chapel. Had he been chosen at once without competition, had it been said, "We trust style, detail, and execution to you," the nation would, doubtless, have possessed a more appropriate, lasting, and simple edifice,—more useful, for the present Gothic elaborations interfere with utility in many instances,—more substantial, inasmuch as the intricate decorations are already clouded with smoke, and will soon be injured by the

outside atmosphere,—and that the building would have been far more forward. Added to this, that, together with a more massive, enduring, and appropriate receptacle for the deliberative Houses, the simpler nature of the exterior details would have afforded more pecuniary opportunity for decorating the interior with the other arts, at present architecture swallowing far more than a lion's share of the Government grants.

It is on public grounds, doubtless, that the stability of a system should be founded; but it is also not to be wholly disregarded what effect it may produce on a profession and its followers. On that of art and artists, the present rage for competition has the most sinister effect. It lowers the estimation and character of the profession as well as of the works it produces. It holds forth a premium to want of conscience, both as to design, estimate, and execution. It makes a bear-garden of the temple of the muses,—gladiators of men of peace,—and forces unwilling combatants into a chance-medley-scrambling prize-ring,—an arena full of inequalities and pitfalls, where the judges are partial and ignorant, and which affords none of the fairplay which it is said the English estimate so highly! Thus—and we hold, wantonly and wholly without benefit to the public—is all done that can be done to embitter towards each other the feelings of individuals who are, besides this, put to great expense and trouble in preparing designs, models and sketches, ground-plans and specifications, &c., all of which, with the exception of the fortunate one chosen, are wholly useless. Many a competition has taken place where the aggregate fair value of the designs and plans made, has far exceeded the actual remuneration which the fortunate architect can receive on the cost of the executed work, for his pain bestowed on it in all its stages; the profession actually losing more in the persons of the disappointed competitors than it gains in that of the successful one. A balance struck shews the public not advantaged, and the profession injured in purse as well as character to a considerable amount: this constant occurrence has no benefit, but is all evil. Two of the worst phases of this are, that in almost all cases, to have a chance of success, it is imperative to work *down* to the level of the deciding tribunal; and, secondly, that if by some rare occurrence a bold work of genius and originality attracts the chief attention, those qualities are sure to be knocked out of it in running the gauntlet of the assembled judges. It is pieced here and pared there to suit all tastes and crotchets, till, when executed, it is like the old man and his ass, it pleases no one, the poor architect least of all.

It is indeed a "great fact," that it is a rare and marvellous event, when any work of genius or originality arises from the bringing together of competition and committees; while, on the contrary, their accustomed products are the commonplaces that occupy our metropolis, and please neither artist, committee-man, nor the public, neither native nor foreigner.

Both from want of space and inclination, we refrain from turning back to the occurrences of late years, to disinter their numerous lamentable public and private instances of the results of ill-conducted competition. We will leave them to the memory of our readers. We do not desire to extend our invidious task, but will confine ourselves to those that have just occurred, that are topics of the day, and cannot be passed over. The two late special competitions of the prize-medals and Exhibition building of '51. What have been their results? It is our unpleasing duty to say, that the competition for the production of worthy designs for the prize-medals has failed in producing one work worthy of the occasion. There was considerable merit in some of the designs, but there is not a really good medal among them,—not one properly composed for the purpose, nor equal to many designs, medals, and coins, produced both at home and abroad, now and formerly, for purposes far less dignified. But 450*l.* of public money was held out to educe these, and guaranteed to be spent in rewards. This is too large a sum to be thrown away; in consequence, the designs selected are being executed, and, not excellent themselves, are to form the badges of excellence in others. This is the unsatisfactory first public step that competition for a special work has entailed on the Exhibition of '51.

Again, all the world was called in to suggest and design for the proposed

building in Hyde Park, but nothing came of it but disappointment, expense, and loss of time, when time was most valuable. Here, however, the usual degree of permanent injury to the public most fortunately was escaped. Time rushed on,—the Commission, were committed to the public,—a storm was impending,—the Gordian knot tied by competition,—the precious tangle caused by calling in so many opinions, must be cut, and at once! At this juncture in steps Mr. Paxton with his trenchant blade ready drawn, and, by the condescension of the Committee, sunders the difficulty. This gentleman is not, strictly speaking, an architect, nor did he compete, but his plan was at last hastily accepted, after a vain attempt to distil, out of the universal competition and the Building Committee, one proposal at once suitable and practical. And yet among these there is many a one, who, had he been at first specially employed, and at once intrusted with and made responsible for the work, would have felt his character forced upon him to come down, without further delay, to some practical scheme, like that now in the eleventh hour adopted, and which we believe would not have been settled till long after the present time had not the Commission been driven to actual extremities as to time.

We have thus alluded briefly to some of the most prominent failings of special competitions; the haphazard appointment of adjudicating committees, and their consequent incompetence; the unwillingness of the best men to enter into such contentions; the premium put upon the competing artists deceiving the committee as to scale, effect, ornamentation, and estimate, and the necessity for the chance of success for following the public taste instead of leading it; the field for undue interest and "jobbing" that it keeps open; the injury it does to the members of the professions of art; the effect it has of cutting down originality and genius; and the last great evil it does to the great public and our national character, by the erection of bad works in the most prominent places. We would recur again briefly to the present incompetence of the special tribunals as the most important point of all, and then proceed to suggest, we hope in a good spirit, to the public, and to the professions more immediately connected with the subject, some alterations and substitutions which appear to us most calculated to effect a desired amelioration, and produce better public works.

It is an evident truism, that justice cannot be properly dispensed by ignorance or inattention; and it is no calumny to affirm that the former forms a large ingredient of juries appointed under the present system. Not only does wealth and position make him an adjudicator who is no judge, but it forces frequently into the service his tired hours. Men during the main part of the day engaged in matters of more importance or personal interest, give a few weary minutes to a vote on a subject that requires hours of consideration. Everything should be the reverse of this. Those who constitute a committee for selecting a work should not only know what they want, but should be acquainted with what has been done, and who have done it; they should have an acquaintance with the department of art on which they are to adjudicate, and should have time and inclination to pay the utmost attention to their judgment. Further than this, they should be conversant, to a considerable degree, with the comparative merits of the present professors of those arts which are intended to be employed. They should know what has been and can be done in this country, and by whom. Unless they have this knowledge they are not fitted to be the adjudicators, and it behoves any one appointed by others, if he feel this to be the case with himself, to decline acting. We wish that the public would be impressed with the truth, that on the appointment of the jury depends the eventual success of the undertaking; that on that first step depend all the after ones. It is the *premier pas*, and irremediable; yet it is frequently hurried over with the most unseemly haste, and without any real efforts to enlist confidence. Whether the competitions we reprobate are to continue, or to be done away with, to give way to the appointment of artists, without their being called on to compete for the individual works,—which we believe is, from various causes, the best mode to

insure the best,—in either case the responsibility of selection must rest somewhere, somebody or some persons must have it; and in every instance, we believe, it should be by the means and through the action and experience of a deciding body, which should be most carefully selected from the most intelligent and conscientious, from those well acquainted with the exigencies of the occasion, and those most capable of supplying them in the most complete and worthy manner. Thus far we suggest with absolute confidence: the after steps are fraught with greater difficulty, and we indicate them with less decision.

We are, however, prepared to recommend one of two courses. The first of these is that the deciding body, who we presume have been selected with greatest regard to their competence for the required occasion, and the consequent conversance with the subject before them, should select at once without competition, either by ballot or vote, the artist in their conviction the most fitting to design and do justice to the work proposed. When we say "at once," we are far from intending that the judgment should be hurried over; on the contrary, we strongly urge, that the decision be not made until after the most careful weighing of the merits of the most suitable artists, and two meetings, at least, should be held on the subject. While the affair is pending, however, there should be no collusion between the adjudicators and the artists; and the question should be decided without any trace of competition but from a review of the actual works that have been executed by the respective professors, and by the knowledge the judges possess of their talents. This being done, the whole responsibility should be laid on the artist, and his whole powers on the subject will thereby be guaranteed.

This is our first mode, but we prefer the second. In most cases it is undesirable to choose out *one* man, and arbitrarily set him, as it were, on a pinnacle above his fellows. Our second proposition is, that by the before-mentioned well-constituted jury, a certain number of competent artists be maturely chosen by ballot from the members of the profession,—say three, six, or twelve; each of whom, in the conviction of the judges, might be safely intrusted with the intended work, and that their names be forthwith published. By this means professional merit will be acknowledged. At a subsequent meeting from among these chosen names, each of the artists having been in the meantime communicated with to ascertain, whether his engagements and inclination will enable him to give full time to the work in case of its falling to him, the one person to be intrusted with the work should be selected. We propose that this selection take place by *lottery*, of the fairest and most unimpeachable kind. We are aware this will startle many, but we believe that in actual practice it will prove to be the best mode to be devised. As we presuppose that no incompetent artist has been put on the list, none can be indicated by the lottery. Nor would the most eminent of the profession shrink from having his name placed where it must reflect on him respect and a high acknowledgment of talent, and cannot entail the possible chance of a slight. Thus would be formed on every occasion a collection of talent from which any selection would insure ability of high order. We believe sincerely this is the best mode that we at least can devise, and that we shall come to it in time; but whether the public is as yet ripe for it, we doubt, and for this reason solely we mention that this last step might be modified in two ways to suit our present immaturity. Certain sufficient sums might be set aside to remunerate the designs to be requested from each of the selected artists, who would thus be invited to a limited competition, or from this body the one to be intrusted with the work might be chosen by ballot. The former of these two has the advantage over a more extended competition of insuring an artist of repute, who can execute as well as sketch, and both of them save vast useless trouble and expense to the profession; but neither of them will be likely to bring forward the best men, who have much to lose in reputation, and are unwilling to expose themselves to the chance of the slight and injury of rejection. We prefer, indeed, our suggestions the most completely opposed to competition, which may be thus described: a most careful appoint-

ment of a deciding body, followed by a weighing together of the merits of artists, and a decision at once who is to be intrusted with the work; or, a mode which we considerably prefer, commencing with the same most careful appointment of a deciding body, who should attentively select and name a certain limited number of artists, one of whom might safely be intrusted with the work. This should be followed immediately by the publication of those names, each of the men having been written to, to know whether their engagements will enable them to give full attention to the work, and their willingness to be on the list; and then that a public meeting be called, at which the artist to be employed be chosen by lottery. This mode would insure, as the designer and executor, one of the best artists, would honour those who are eminent, would discourage "jobbing," would be open and before the public, would save the poor artists a world of trouble, and, we believe, would insure a far greater chance of the production of fine works, than the present unfair, slipshod, intriguing, irritating, dilatory, and fallacious method of indiscriminate competition for individual works, which has so much injured art, and has produced so many bad results both to the nation and individuals.

We would fain thus wholly sweep away the prevalent competitions of the *special* class, and would substitute in their stead occasional, well-considered, but extended *national* competitions, which we believe are excellent in their effects, when called for with judgment, in maturing public taste, working out originality, and exhibiting the powers of the country, latent as well as recognised, in each class of intellect, energy, and industry. We do not pretend that the courses we have suggested are perfect, but we are sure that they are defaced by far less evils than those we reprobate. As regards the profession of architecture, it may be objected by some readers that hidden talent would not be evoked by the alterations we suggest, as it has not the opportunity or funds to execute a building to manifest its competence; but besides our belief that it would be by no means impossible to devise a system of general competitions, that would fully supply any supposed disadvantages of the change with less concomitant evils, we would draw attention to the fact that it is more especially in connexion with architecture that the present system is the most crying evil, and that it is peculiarly on the professors of that art that competition (as at present conducted) presses with the greatest weight, and entails the most serious consequences. To such a pitch has this arrived, and so much are its evils recognised by the profession, that from the articled clerk to the most eminent professor it is felt to be a stigma on their profession, insomuch that we believe all classes of them, almost to a man, would join in its reprobation, and feel rejoiced, and their position elevated, by its total abolition. In other departments of art nothing occurs that makes for the present system—as the exhibition of talent is less costly to artists—but all we believe are for that we recommend, viz., the selection of those who distinguish themselves in unfettered and unrestricted general competitions, to be registered as it were, under national *surveillance*, and to be employed at fitting times in works suited to their talents. Somewhat of this is forcing its way to the approbation of the world, as is shewn in the arrangements for the Exhibition to be held in '51, which in its after recurrence we hope to see still more universal than the one in immediate prospect, and embracing more fully all departments of intellectual energy. We trust to see the system of occasional, well-regulated, and grand competitions, spread far wider than is at present generally contemplated, over all occupations; and that they will offer to each the fullest opportunity for the exercise and developement of his natural powers. Thus will be established, on a fair, mutual, and Christian footing, an even-handed free-trade of intellect, calculated to call forth to the utmost extent the mental resources of the world.

A. M.

MORE UPON SHAMS IN WOVEN FABRICS.

WE were led, in our paper of last month (p. 10), to animadvert on the bad habit of imitating in one fabric the mode of manufacture, texture, and design

proper to another; we spoke of it as a mischievous bar to the progress of good design. We now return to our argument on the subject. Our remarks on the present occasion must still be considered to apply only to this practice in connexion with garment fabrics; but when we look around us, we find false pretences so rife everywhere,—from the stucco abomination, that, outfacing honest brick, affects to look like stone on the outside of our houses, to the thousand other shams which meet us within doors,—and susceptible of many divisions in the consideration of it, that to combat this enemy we feel is a wide vocation. We hope to do battle with it on other grounds at some future time, because we are convinced that most of the shortcomings, and much of the meanness and poverty of our designs, may be traced to this source.



Whilst condemning shams and imitative affectations, we wish not to be supposed that at the same time we condemn those suggestions which may and must arise from the contemplation of other fabrics, but only the servile attempt to reproduce them falsely. With this view we inserted last month an illustrative pattern, which had, doubtless, been suggested by a woven material, as the checked ground would shew, yet had been honestly executed as a cotton print. Still this limited license is not without its danger, since it is frequently destructive of principle, and rarely, if ever, productive of any great excellence. Let us examine the print inserted this month. We think its merit rather beyond the average: the foliage is elegant and graceful, the ground well

covered, and the forms pleasantly interchanged. We feel, however, assured that, either directly or suggestively, it has been derived from a woven silk, and that the play of light which the different disposition of the threads in weaving would produce, has been coarsely and commonly imitated by a bald and mean division of the leaf into half light and half shade,—a treatment differing as widely from the light and shade of nature, so easily given in printing, as it does from the fanciful skimmer of the woven silk, glittering and glancing to every motion of the wearer. Such an example, at the same time, shews the narrow possibilities of imitation. Place a piece of figured silk flat before a designer. Let him give as perfect a transcript as printing can produce, and what relation has it when printed on the cotton to its silken prototype, changing, as that does with every light, and having a different aspect to every beholder? Moreover, the silk thus broken by its varying light and shade would be true in its principle of relief, where the print before us is at least defective.

It is a principle in art,—and here let us remark that art-principles are always equally applicable to ornament, being based on incontrovertible laws of nature,—it is, we repeat, a principle in art that objects should have variety in the manner of their relief from the ground; that there should be a constant interchange of light upon dark, and "dark upon light," as Wilkie used to express it; that the outline should be lost and found; but, in the pattern inserted, we find that the whole figure relieves light and is cut sharply out, partly, it is true, from the extreme darkness of the ground. We repeat that this is almost necessary in the print; but a recollection of this as a principle of design would lead to more striking and impressive treatments, and the same design woven in a shining material, such as silk, would not in the same way depart from the truth. Allowing it to be necessary here, it is to be remembered that the choice of a suitable ground, as well as of a suitable mode of covering it, is open to the designer, and his skill would be far better shewn in studying the capabilities of his material, and in treating the design for it suitably and justly, than in appropriating at second-hand the thoughts of others, of course wanting their appropriate fitness.

We have before remarked, and we can but reiterate it, that each manufacture has a mode of ornamentation more peculiarly appropriate to itself, which must be based on nature,—nature not merely imitatively made use of, but reduced to ornament; first by the selection of the most graceful forms, the few from amongst the many; then by the simplification of the parts, the seeing the general in the individual; then, if for a flat surface, by a certain amount of geometrical reduction to one surface, the absolute truth of form being in some degree merged in that which shall give the fullest impression of it. Moreover, if colour is to be added, this also must be simplified, the minor shades left out, the large masses retained. Then comes the consideration of the material, its glossiness or absorbent qualities, its open or close texture; and when we add to this the due consideration of the modes of manufacture, there is quite enough to engage the best attention of the designer honestly on his own fabric; and, what is more, it will be attended with true novelty, and with a style which will not be for the day or for the year, but, like the Indian shawls and Turkey carpets, will be of everlasting demand. When our designers bear in mind and practise these principles, then will manufacturers find out the value of an extended term of copyright, which the Legislature has just granted. Prints will not be for one season merely, but for many; and we shall not be surprised then to witness a demand from our calico-printers to extend the copyright in the design beyond even the FOUR YEARS, which now may be obtained for it.

While recommending such study of nature to our designers for cottons, it will be seen how far we are from advising, even to them, the merely imitative, and commonplace view of ornament which has been lately too much gaining ground, and needs severe repression,—the worst phase of which style is made evident more especially in our metal goods, wherein *construction* is made no account of, and épergnes and candlesticks are seen supported on the toes of

leaves and fingers'-ends of flowers. This, as an extreme case, will illustrate the error in principle of mere imitation, an error of small importance in designing for printed cotton, but still an error which becomes the more apparent when traced into other manufactures.

COMING REFORM OF THE PATENT LAWS AND THE EXHIBITION OF 1851.

In our last number (p. 7) we alluded to the dilemma in which all parties—the Commissioners for the Exhibition, the Government, the Legislature, and Exhibitors—were placed in respect of the subject of protection of articles of invention from piracy, by the conduct of the House of Commons in their mutilation of the Copyright of Design Bill. We must not forget, that beyond recall the inventors of all nations have been invited to shew us the products of their ingenuity, under a promise solemnly given by Her Majesty's Commissioners, among whom are the President and Vice-President of the Board of Trade, that they should not be subject to have them pirated; but after an abortive attempt to redeem this pledge, which had passed the House of Lords, the law still stands as it did, and to obtain ANY protection it is necessary to compel all inventors, both rich and poor, native and foreign, to appeal to the antiquated and costly process of obtaining a patent, which is paying from 100*l.* to 300*l.*! not to our Exchequer, but in personal fees for the most part.

Certainly it must be admitted that this is a most unfortunate dilemma for all parties, and if it were not possible to find a remedy before the Exhibition opens in May, every right-minded Englishman would blush for the impotency of our Legislature, for the violation of the pledges given, and for his own apathy on the subject. But we rejoice to observe many symptoms that public opinion is already attracted to the subject, and that at the very earliest period of the next session of Parliament the Legislature will be called upon by more parties than one, to consider not merely a provisional registration of inventions, but the *whole question of a complete reform of the patent laws.* And as such is their anomalous state, that nothing whatever can be done without disturbing the whole rotten structure, which passes by the name of patent laws, we have great hopes that the Exhibition of 1851 may thus be the means of effecting a thorough reform of them. It will be observed that the question of a revision of the patent laws was brought forward by Sir David Brewster at his late presidency over the British Association at Edinburgh. We quote the following passage from his address:—

"In 1831, when the Association commenced its labours, our patent laws were a blot on the legislation of Great Britain; and though some of their more obnoxious provisions have since that time been modified or removed, they are a blot still, less deep in its dye, but equally a stain upon the character of the nation The protection which is given by statute to every other property in Literature and the Fine Arts, is not accorded to property in scientific inventions and discoveries. A man of genius completes an invention, and after incurring great expense, and spending years of anxiety and labour, he is ready to give the benefit of it to the public. Perhaps it is an invention to save life—the life-boat; to shorten space and lengthen time—the railway; to guide the commerce of the world through the trackless ocean—the mariner's compass; to extend the industry, increase the power, and fill the coffers of the state—the steam-engine; to civilise our species, to raise it from the depths of ignorance and crime—the printing-press. But whatever it may be, a grateful country has granted to the inventor the sole benefit of its use for fourteen years. What the state thus freely gives, however, law and custom as freely take away, or render void. Fees, varying from 200*l.* to 500*l.*, are demanded from the inventor, and the gift thus so highly estimated by the giver, bears the Great Seal of England. The inventor must now describe his invention with legal precision. If he errs in the slightest point—if his description is not sufficiently intelligible—if the smallest portion of his invention has been used before—or if he has incautiously allowed his secret to be made known to two, or even to one individual,—he will lose in a court of law his money and his privilege. Should his patent escape unscathed from the fiery ordeal,

it often happens that the patentee has not been remunerated during the fourteen years of his term. In this case the state is willing to extend his right for five or seven years more; but he can obtain this extension only by the expensive and uncertain process of an Act of Parliament,—a boon which is seldom asked, and which through rival influence has often been withheld. Such was the patent law twenty years ago. Since that time it has received some important ameliorations; and though the British Association did not interfere as a body, yet some of its members applied energetically on the subject to some of the more influential individuals in Lord Grey's government,—and the result of this was, two Acts of Parliament passed in 1835 and 1839, entitled 'Acts for amending the law touching letters patent for inventions.' Without referring to another important Act for registering designs, which had the effect of withdrawing from the grasp of the patent laws a great number of useful inventions depending principally on form, I shall notice only the valuable provisions of the two Acts above mentioned, Acts which we owe solely to Lord Brougham. By the first of these Acts the patentee is permitted to disclaim any part either of the title of his invention, or of the specification of it, or to make any alteration in the title or specification. The same Act gives the Privy Council the power of confirming any patent, or of granting a new one, when a patent had been taken out for an invention which the patentee believed to be new, but which was found to have been known before, but not publicly and generally used. By the same Act, too, the power of letters patent was taken from Parliament and given to the Privy Council, who have, on different occasions, exercised it with judgment and discrimination. By the second Act of 1839 this last privilege was made more attainable by the patentee. These are, doubtless, valuable improvements, which inventors will gratefully remember; but till the enormous fees which are still exacted are either partly or wholly abolished, and a real privilege given under the great seal, the genius of this country will never be able to compete with that of foreign lands, where patents are cheaply obtained and better protected. In proof of the justness of these views, it is gratifying to notice that, within these few days, it has been announced in parliament that the new Attorney-General has accepted his office on the express condition that the large fees which he derives from patents shall be subject to revision."

Exhibitors in 1851 would have been content with the provisional registration of inventions; but, as it appears, they cannot have this *without* reform of patent laws, they must have it *with* the reform, and we have little doubt they may secure the recognition of this much larger and more valuable right, if they only give themselves the trouble to demand it.

We are very glad to be able to say, that the present state of circumstances has re-awakened the attention of the Society of Arts to the question. In the spring of 1849 the Council affirmed the principle that inventors, designers, &c., ought not to be subjected to any other expenses than such as may be absolutely necessary to secure to them the protection of their inventions, and that "the difficulties and anomalies experienced in connexion with patents should be removed;" and we think inventors will be happy to hear, that the Council has now appointed an influential committee "to promote a legislative recognition of the rights of inventors in arts, manufactures, and science by means of an easy registration of them." We dare say it may be news to many of our readers to be told that in this by far the greatest manufacturing kingdom in the world, there are no positive statute laws which determine the rights of invention, that our system of patents is part of a system of monopolies at least as old as King John's reign, which are granted as a sort of privilege by the Crown, at its absolute pleasure, and that all the many absurd and obsolete regulations and details connected with them are the products of centuries of judge-made decisions, and not of positive statutes. We think the Council of the Society of Arts has done very wisely in defining so clearly the functions of its committee. It would appear that they are not to attempt to meddle with the modifications of the infinite intricacies of the heap of anomalies connected with patents, but to obtain a clear declaratory law of a particular description; to obtain, in fact, that recognition of rights in the results of inventive skill and labour, which every civilised country in the world but our own possesses, as the accompanying table will shew:—

COMPARATIVE VIEW OF THE LAWS FOR THE PROTECTION OF INVENTIONS IN EUROPE AND AMERICA.

Country	Origin of the Law.	Definition of the Right Protected.	Duration of the Right.	Nature of the Publicity given to the Right.	Cost of obtaining the Right.	Remarks.
France . . .	1791	Every new discovery or new invention in all kinds of industry is the property of the author: every means of adding to any manufacture whatsoever a new degree of perfection, is regarded as an invention. Whoever is the first to bring into France a foreign discovery enjoys the same advantages as if he were the inventor.	5, 10, or 15 yrs., according to choice, may be prolonged.	Catalogue may be inspected, but is secret sometimes. Specifications open.	300 francs and upwards (12*l.*).	The surplus profit on the management is applied to an *invention fund.* No guarantee for priority, merit, or success. A small tax on annual patents.
America . . .	1836	Any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement thereon.	14 years.	Copies of specifications made.	30 dollars (6*l.* 10*s.*).	Receipts paid to national treasury.
Netherlands .	1817	Invention or essential improvement in any branch of arts or manufactures, and for the first introduction or practice of an invention or improvement made in foreign countries.	5, 10, 15 years.	Specification secret, but a register is searchable. Public notice given of patents issued.	150 francs to 750 (6*l.* to 30*l.*).	Receipts paid to an invention fund.
Belgium . . .	1817	As in the Netherlands.	5, 10, 15 years.	Specification open, but cannot be copied.	Higher than Netherlands.	Receipts paid to an invention fund.
Austria . . .	1820	All new discoveries, inventions, and improvements in every branch of industry, made either in the country or in a foreign country, are entitled to obtain an exclusive privilege in the Austrian Monarchy, whether the petitioner is a native or a foreigner. Every new finding is a discovery. Every production of a *new* object by new means, or by means already known. Every improvement on a known arrangement or process.	5 to 15 yrs.	Specification sealed, but a register is kept.	50 florins (5*l.* 16*s.* 8*d.*), with annual addition of 5 florins (11*s.* 8*d.*).	Receipts paid to national treasury.
Spain	1820	Whoever invents, improves, or imports, a new branch of industry: an *inventor* is held to be one who makes for the first time a thing which was not made before that time, or was made in another way; an *improver* one who adds to inventions, or takes away from them, or changes some essential parts in order to render them more useful. He who applies things already known to mechanism, or processes already known, is not held an inventor. Inventions not allowable for forms or proportions which do not constitute the *essence of the thing*, or to ornaments of any kind whatsoever.	5, 10, or 15 years.	Specification sealed, but register open.	10*l.*, 30*l.*, 60*l.*	The novelty or utility is not guaranteed.
"	1826	Any person of whatever condition or country, who shall establish any machine, apparatus, instrument, or a mechanical or chemical process or operation, which may be wholly or in part new, or which may not have been established in the same manner and form.				
England . . .	No Statute Patents granted at pleasure of Crown.	Judge-made law based upon successive interpretations of the statute 21 Jac. I. c. 3 (A.D. 1624), which was passed to limit the power of the Crown in granting monopolies.*	14 yrs., may be extended by Privy Council.	Specifications in three different offices, may be searched. Indexes imperfect. — No official publicity.	About 300*l.* for the whole of the United Kingdom.	Validity of the patent not guaranteed. Fees paid to Home Office, Privy Seal Office, Attorney-General, & various Chancery Offices.

* An exception in favour of inventions was made by the following clause:—"The power to grant patents exists by common law; but it is limited and defined by the famous statute 21 Jac. I. c. 3 which enacts, 'That any declaration before mentioned shall not extend to any letters-patent and grants of privileges for the term of 14 years or under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm, to the *true* and *first* inventor and inventors of such manufactures, which others at the time of making

This is a most instructive document, which will furnish texts for many future comments. We entreat our readers to ponder well upon it.

THE USE AND ABUSE OF "PARIAN."

"It never rains but it pours," is an old proverb particularly applicable just now to the use of this beautiful material, which is, we are sorry to say, employed by our potters for all sorts of unsuitable purposes; not limited to statuettes or articles strictly ornamental, but moulded into jugs, basins, plates, cups, and all kinds of commonplace articles in everyday use.

In this, as in all cases of manufactures, the principle ought to be recognised, that the material has one most special kind of suitability, and that it is an error to employ it without regard to its special fitness. It is now some years since Messrs. Minton and Copeland almost simultaneously introduced the new "body" in pottery, which, with some modification in its ingredients, is now made by several potters, and called Parian, Statuary Porcelain, Carraran, &c. The first name seems to be the most generally adopted, and articles of all kinds in that "body" are manufactured by many other potters, Messrs. Wedgwood, Roses, Brougham, Keys, &c. Parian is a beautiful substitute for marble, and those cases where we should select marble as the material, will be found to be exactly those where the use of Parian is most appropriate and happy. For all kinds of statuettes it is perfectly suitable, so for busts or bas-reliefs. There is no objection to its use in any case where the article is primarily and essentially ornamental, as, for example, in the following copy of an antique vase by Minton. But if this vase were subject to constant and





(Bracelet, manufactured by Mrs. Brougham.)

daily handling as a vessel for drinking, we hold that it ought not to be made of Parian, but of some material less delicate, less readily dirtied, less brittle and tougher, and, therefore, more suitable for the purpose. Broadly speaking, we may safely adopt as a first principle, that Parian is fittest where the object is absolutely ornamental, and not an implement subject to daily use and handling.

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such letters-patent and grants shall not use, so as also they be not contrary to the law, nor mischievous to the state, by raising prices of commodities at home, or hurt of trade, or generally inconvenient; the said 14 years to be accounted from the date of the first letters-patent or grant of such privilege thereafter to be made, but that the same shall be of such force as they should be if that Act had never been made, and of none other.' "

We now come to the consideration of its employment in articles of utility, and we shall attempt to make clear the limits of its application in this respect. For articles of personal decoration it may be applied successfully. Hitherto Mrs. Brougham, of Burslem, has been most active in its treatment for brooches and bracelets. We engrave one of the most recent examples of its adaptation to the clasp of a bracelet. And we think Mrs. Brougham would do well to extend its use beyond mere floral ornaments, to which there are two objections. The more successful their likeness to nature, and the more delicate the leaves and petals, the more brittle they necessarily are, so that the article can only be used with great care; besides, they so closely resemble ivory carvings, also used for the same purpose, that they may be mistaken for *imitations* of them. Art-manufactures should always have an original character of their own, and avoid the secondary position as imitations. We can conceive some beautiful bracelets and brooches made by a combination of parian and pierced metal-work, the parian being applied to alti-relievi of animals of various kinds. The only difficulty in this case is to find an artist who can make the design and the art-workman who can execute it.

The actual boundary line to which parian may be applied in ornamental utilities it is not very easy to fix. Where the article, like the accompanying two ornamental stands for the dessert table, is not subject to much handling,



(Ornamental Stand, manufactured by Messrs. Roses.)

but is placed as a sort of point of attraction in the midst of a table, we consider the use of this beautiful material quite admissible. The three-dolphin stand is the production of Messrs. Roses, and is commendable. The quantities and parts are well arranged, and the outlines of the composition agreeable; and though the general idea and treatment may not be very novel, dolphins and shells being such old familiar friends, its adaptation to the dinner-table, and in parian, is both new and welcome. The second stand is the joint pro-

duction of Mr. Bell and Messrs. Minton. The cupids represent hunting, fishing, and fowling; they tell the story clearly enough, and are well grouped; but we must say it was not by modelling like this that Fiamingo earned *his*



(Ornamental Stand, manufactured by Messrs. Minton.)

celebrity for his cupids. Messrs. Minton have done their manufacturing well, and produced this art-utility with several varieties of base and upper shell, the gilding and delicate tinting of the shells being lively and pretty. We do not object to its use in these flower-stands, respectively produced by Messrs. Copeland and Minton. We must say, however, that the rude adaptation of nature in these designs is hardly correct in principle.





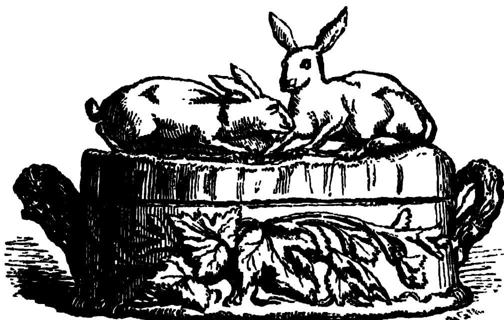
We now come to a class of articles for which we hold parian to be quite unsuitable, and the examples we engrave will be sufficient to illustrate the

principles we would endeavour to enforce. The first is a Dresden salt-cellar, copied in parian by Messrs. Minton; the second, a chamber candlestick, and the third a preserved meat-pot, both by Messrs. Copeland, we believe. We object to the repetition of the salt, and the departure from the first mode of producing of it; but let that pass. All these are articles in everyday use, and must necessarily be handled and dirtied. Parian, we know, will clean well; but we also know that servants do not always take as much trouble as they should in respect of cleanliness. The glaze on porcelain and earthenware materially assists not only in cleaning, but in preserving cleanliness; on the contrary, there ought to be no glaze in parian, and a very





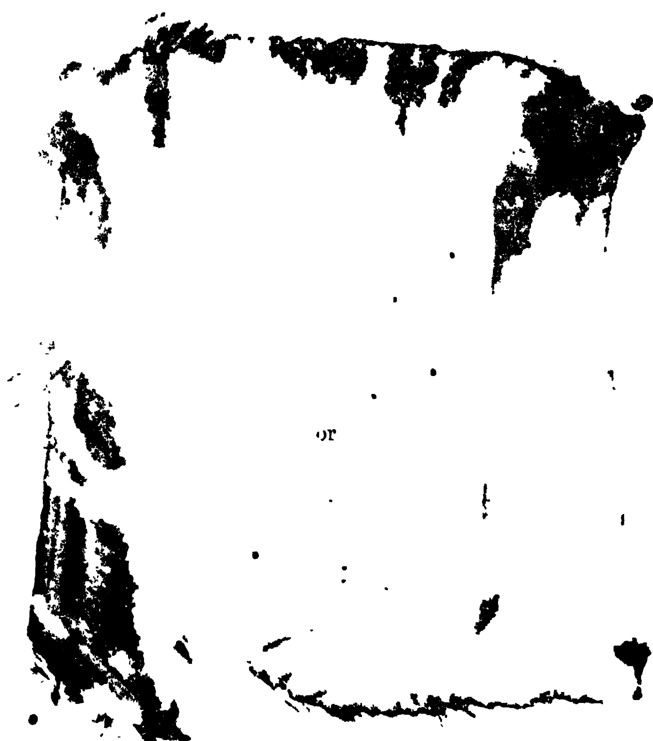
fine granular surface is one of the characteristic beauties of the material, which has a very positive tendency to arrest and encourage the dust and dirt. Moreover, there is a most important metaphysical consideration which must not be forgotten: we associate a clear pure surface with parian, and it is most disagreeable to have this association broken by black creaks and corners and smears on edges; and the repetition of this impression re-acts even on other articles. We cannot help connecting Marshall's "Sabrina" and Bell's "Miranda" in parian with dirty parian beer-jugs and salt-cellars; and imperceptibly we are led to depreciate the first and regard them as mean. So long as parian was part of the association with beauty we prized it; but when we find it debased into piratical imitations of bread-platters, into rococo-shaped jugs, mustard-pots, and even cups and saucers, we are naturally forced to regard the material at least with indifference. This



debasement appears one of the inevitable tendencies of manufactures in this struggling, competitive age. An invention like parian is discovered and found to be especially apt for a particular purpose; but its peculiar fitness is so little recognised, that every one is attracted to apply it in his own way, and to most unfit purposes; and the result is, that instead of having its use limited to a well-modelled statuette, we find it degraded into a twisted jug or tea-cup, which cracks and falls to atoms the instant hot water is poured into it,—a happy fact in chemistry which, in the long run, may perhaps restore parian to its original and natural purpose.

NEW PATTERNS OF MESSRS. INGLIS AND WAKEFIELD.

FROM a collection of some two hundred and twenty new patterns—at least two hundred more than there could be any reasonable necessity for at one season, and from one firm, if the public craving for novelty were less rabid—



we have selected the accompanying example as a useful text to suggest a few lines of remark. We may at once dispose of the bewildering multitude with which it is surrounded, by saying that about ten per cent are good specimens

of the several styles more or less in vogue now. Among the patterns of Messrs. Inglis and Wakefield for the present season buyers will find two or three cachmeres, as excellent in their own style as in execution, and several successful adaptations of a style borrowed from the French, namely, an intermixture of natural foliage and the smaller many-coloured forms peculiar to cachmeres. The pattern inserted at vol. iii. p. 148, is a type of this class. We must say we do not admire it: we repeat our objection on principle to the translation of the *woven* cachmere effects to printing, and the intermixture of such very opposite elements seems altogether incongruous. It is, however, but a mere passing whim, little likely to obtain a permanent footing. Another whim is the adaptation of the Chêne silk effects to mousselines de laine, not at all defensible. It was hardly tolerable in silk,—no better than a mere affectation and struggle for novelty—and we are sorry to see it descending to meaner materials: it will soon be applied to cotton at sixpence a-yard, and then it will go to limbo, for twenty years or so, unless Schools of Design teach the people better and prevent its revival.

The pattern now inserted seems to us a very successful design for its colouring, and proves how much more important the *general* effect of colour is in a drapery than the abstract character of the forms. In this case, we cannot say anything favourable of the forms; on the contrary, there is a slight affectation of the Chêne silk-look, which is not commendable: still the general effect is admirable. The scale of the colours and the masses are properly equalised throughout. If, on the contrary, the leaden colours, for example, had been left white, they would have been discordant spots asserting an undue pre-eminence. The dahlia is a brilliant specimen of this new and beautiful dye, and the introduction of the amber shews a due sense on the part of the designer of the natural want of the proper complementary contrast.

We esteem this pattern one of the most successful of the latest novelties, and we are glad to learn that it is one of those most appreciated by the public. It adds further confirmation of our views, that sound principles are always sure to command a success, if brought forward opportunely. This is a pattern which is likely to be popular for a long time, because the principles on which it is made are not those of a day, but for all time; and we have no doubt it will be the interest of the printers to obtain the new extension of copyright for it, assuming that it has already been duly registered.

EXHIBITION OF 1851: MONTHLY REPORT OF PROGRESS.

Even the most sceptical spectator, as he beholds the beautiful castings passing in tons daily from Staffordshire along the Kensington road, having been brought by the London and North Western Railway, and now in the course of delivery in Hyde Park, feels himself warmed into sympathy for the Exhibition, and ventures to speak confidently that it will really succeed. The first castings of columns were delivered in Hyde Park on the 7th September, by Pickfords, having been brought from Dudley by railway, and landed at Kensington Basin. They were cast by Messrs. Cochrane. We understand the trials of the strength of all the girders for supporting the galleries, &c., have been most satisfactory, and that they have been proved capable of bearing four times the weight that is ever likely to be required. The ground also has been tested in many places by weights of fifty tons, considerably more than is necessary, and has been found perfectly sound and satisfactory. A steam-engine and numerous cranes and tools of all kinds have been prepared abundantly.

The vigorous prosecution of the works seems to have effected a magical change in certain quarters towards the undertaking, and perhaps has even caused some twinges of conscience to those sham friends, who, mistaking the quiet of solid preparations for torpor and weakness, thought they would shew their sagacity by prognosticating failure, and scraping together all sorts of objections, substantial and otherwise.

That the Exhibition building is to be mainly constructed of iron and glass, appears to us a most happy omen for the progress of architecture in this

country, and likely to be the means of relieving us from the trammels of imitation, with which this branch of art has been so long paralysed. In our last number we gave Mr. Paxton's own account (p. 30) of his "Crystal Palace," and we shall now endeavour, by means of the plans and details which we are enabled to lay before our readers, by the courtesy of the *Athenæum*, to prepare them for the sort of structure they may expect when they visit the Exhibition, and to point out its especial aptitude for its purpose. Looking first at the end view, which is the same both at the east and west, it is seen that the building consists of three tiers of elevation. The centre portion is 64 feet high, the adjacent side portions 44 feet, and the outer sides 24 feet high. There will thus be wall or hanging room for Exhibitors of every variety of height that can be wanted. Except the light columns, about 9 inches in diameter, the whole space (1848 feet long and 408 feet wide) is completely open and uninterrupted, so that, if desirable, hanging room may be obtained in any direction of the light. The light, indeed, will be almost as bright as in the open air, still gently tempered and diffused by the canvass coverings over the *outside* of the roofs and *all the south side* of the building. The advantages of the covering being *outside* are many. It protects the glass from fracture by hail; it keeps the building much cooler than if it were inside; it affords the means of keeping the temperature of the building as low as may be desired; and if for any reasons the light is *too good*, it is obvious that it may be estopped to any extent. Entering at either east or west end the spectator will have an uninterrupted view of the whole extent of the Exhibition, at least 72 feet wide. Such a *coup d'œil* was wanting in the building for the French Exposition, and here it will certainly be of most imposing grandeur. The transverse section (p. 52) is taken through the centre of the building, which is a transept with a semicircular roof, as shewn in the elevation (p. 52). This portion of the building is 100 feet high, and will entirely cover in the old elm-trees. It will make a most imposing feature both inside and outside. The visitor entering from the centre will at one view have before him such a conservatory of rare shrubs and flowers as is not equalled in the world. In the centre of this transept, we hear that preparations have been made for the erection of a crystal glass fountain, at least 20 feet high, which will be in full play. The ground-plan shews the arrangements made for receipt of entrance-money, refreshment-rooms, &c. As in the Building-Committee's ground-plan so in this, the trees are left in the midst of the refreshment-rooms, and in these portions an ample supply of water has been provided for enabling fountains to play. The superficial quantities of the structure are as follows:—

The total area on the ground-floor	752,832 square feet
Ditto in galleries already contracted for	102,528
Total	855,360
But it is possible to add further galleries, which would give an additional	90,432
	945,792 square feet

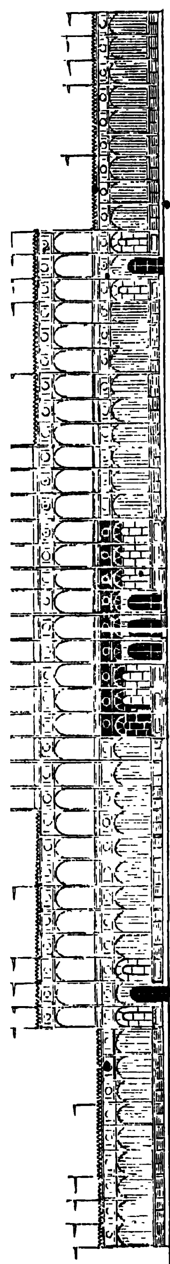
The amount of available hanging space may be fairly estimated at upwards of 500,000 square feet; the total cubic contents of the building are 33,000,000 feet; the total amount at which Messrs. Fox, Henderson, and Co. have taken the contract, for use, waste, and maintenance, is 79,800*l.*, a very little above nine-sixteenths of a penny per cubic foot. Should the building be permanently retained, then the purchase of it will be 150,000*l.*, or something under a penny and one-twelfth of a penny per foot cube.

Leaving the building for the present month, we may now report the progress of other matters. We believe that about 400,000 feet of the space has been allotted to foreign countries, and that there is every likelihood that the whole of this will be required. M. Dumas, the Minister of Agriculture in France, announces that he has postponed the final closing of the French returns until the 31st October. But he has informed the Commissioners that all the space allotted to France will be required. At present about 800 per-

PRINCIPAL OR SOUTH ENTRANCE TRANSEPT, opposite Prince's Gate.

24 feet. * 48 feet wide. * 24 feet * 48 feet wide * 24 feet. *Central Passage, 72 feet wide.* 24 feet. * 48 feet wide. * 24 feet. * 48 feet wide. * 24 feet.

TRANSVERSE SECTION, through the Central Transept.



END ELEVATION, at the East and West.—Width, 408 feet from end to end

Width, 408 feet

A, B, C, Refreshment Rooms, surrounding the trees; D, Royal Commission Rooms; E, Hall; F, Ante-Room; G G, Accountants; H H, Bridges; I I, Pay Places.
GROUND PLAN: total length, 1848 feet.

sons have applied as intending Exhibitors, of whom 356 have been recipients of medals in the French Expositions. Russia, Austria, Germany, Belgium, have also intimated that they will fill their shares of space. The following is the allotment to our colonies:—

Place.	Square ft. allotted.	Place.	Square ft. allotted.
India (including Singapore)	60,000	Monserrat	100
Canada	8,000	Bahamas	200
New Brunswick	1,500	Australian Colonies, viz.:—	
Nova Scotia and Cape Breton	2,000	New South Wales	4,000
Newfoundland	1,000	Van Diemen's Land	1,200
Prince Edward's Island	500	South Australia	700
Bermudas	100	West Australia	700
Hudson's Bay Company's Territories	2,000	New Zealand	1,000
West India Colonies, viz.:—		Falkland Islands	50
Jamaica	3,000	Ceylon	3,000
Trinidad	1,500	Labuan	500
British Guiana	2,000	Hong-Kong	1,000
Barbadoes	1,500	Cape of Good Hope and Natal	1,500
Grenada	500	Mauritius	1,500
St. Vincent	500	Sierra Leone	300
St. Lucia	500	Cape Coast Castle and Dependencies	200
Tobago	200	Gambia	200
Antigua	750	St. Helena	100
St. Christopher's	500	Malta	2,000
Dominica	250	Ionian Islands	2,000
Nevis	200	Gibraltar	200
Tortola and Virgin Islands	100		
			107,050

So that deducting the foreign and colonial allotments (making a total of 507,000 feet) from the two totals given above, there will be in one case about 348,000 superficial feet, and in the other case about 438,000 superficial feet, for the United Kingdom.

We understand the demands up to the present time already exhaust the smaller amount. By far the largest space demanded by the United Kingdom is for Machinery, which is eleven times more than for Raw Materials, and thirteen times more than for the Fine Arts. Taking the latter as the unit, the proportion which each section bears to the other is,—Fine Arts, 1; Raw Materials, 1·02; Manufactures, 6·7; Machinery, 13·2. But it is not likely that these will be the exact proportions they will bear ultimately.

On the 17th ult. a meeting was held of the railway managers, at the Westminster Palace, to concert measures for facilitating the visits of the working classes to the Exhibition. All the metropolitan railways sent their representatives except the Great Northern, and the South Eastern were kept away involuntarily by special circumstances. It is expected that they will shortly make public the extent of the additional facilities they propose to give. A penny a mile for the double journey, for third-class passengers, has been talked about; but this would obviously be too high for distances much beyond 100 miles.

As we expected, some disappointment is manifested at the Legislature not having as yet fulfilled the promise of the Commissioners, that unpatented articles should be protected from piracy, and the Local Committees are beginning to move in aid of the decision of the Commissioners. The South London Committee has thus early passed the following resolution:—

"That the South London Committee regret to find that the above Act (13 and 14 Vict., c. 104) does not extend to mechanical and other inventions; and they trust that, before the Exhibition takes place, such alterations in the law may be effected as will admit the productions of many inventors, who now are prevented from making public the fruits of their ingenuity, by the difficulty and heavy expense attendant on securing a patent."

Notice is given that the Manchester Committee are also going to consider the matter. As the remedy rests practically with the Board of Trade to

accomplish, it is desirable that copies of all similar resolutions should be sent to that Board.

The Executive Committee have issued a memorandum, pointing out how almost every village may exhibit some specimens of Raw Produce and Materials, which will be found in another part of the JOURNAL.

Books.

PENCILLED DRAWING COPYBOOKS: AN IMPROVED PLAN OF TEACHING DRAWING.—D. Bogue, London.

AMUSEMENTS IN COLOUR. Published by John Underwood and Co., Crane Court, London.

IT is a very common error in education to postpone the commencement of instruction to draw until a child has entered at least into its teens, and the general results of this procrastination are, that, instead of the power of delineating forms being as familiar and easy as writing or any other mode of expressing ideas by lines, as it might readily be, drawing is regarded as an accidental addition—a "mere accomplishment" which is to accomplish nothing: indeed, unless there is a peculiar aptitude in the organisation of the child for employing this power, it is seldom encouraged and used in after-life.

But this should not be so. From the very earliest period of childhood the *power of first seeing*, and then representing, both forms and colours, both re-acting on one another, may be cultivated and be made a source of great pleasure and advantage. Without boring a very young child with instruction too early, a slate or lead pencil may be an instrument of valuable education at three years of age, with the least possible amount of positive and direct instruction, the results of which will probably bear fruit throughout all the child's future life.

Both of these works are of the most elementary kind, intended to aid in the earliest stages of art-education. We are not sure that Mr. Bogue may not have stumbled upon a very excellent idea. It is well known the use and success which copybooks have had where the writing is prepared in faint outline, which the pupil is to mark over, as an exercise accustoming him to the forms of letters. We allude to those published by Foster, &c. For the first time, we believe, Mr. Bogue has adapted this idea to drawing, and we shall not be surprised if it be proved very successful.

We are, however, of opinion that the mode of working out the idea may be much improved, and Mr. Bogue, if we mistake not, has ready means of doing so. This drawing-book, like almost all others, begins with abstract lines, and ends with the drawing-master's stereotyped notions of trees and houses, and light and shade. A child has no sympathy with so metaphysical an entity as a line; on the contrary, it soon feels it a task to strive to make constant series of mere straight lines, and becomes disgusted. Now, it is very easy to give it straight lines, and yet arrange them as simply as straight lines so as to form an object which will excite an interest in the child—such as a lead-pencil or a box. Mr. Bogue publishes a book called "Harry's Ladder to Learning," where many of the engravings are far more suitable objects for a child to mark over and to copy than the abstractions in the present series, and in another edition we advise him to employ them or others like them. He may obtain further suggestions from an excellent book to help very young children in the first stages of drawing, called "Exercises in Drawing by Young Children," and now published, we believe, by Messrs. Grant and Griffith, of St. Paul's Churchyard.

The "Amusements in Colour" are, we suspect, by the author of this same little book on drawing. They consist of small pieces of card of various geometric forms and of great variety of colours, out of which the child may make innumerable arrangements of mosaics, to its infinite amusement as well as instruction. Indeed this box, whilst it may be only a toy for an infant of two years of age, may yet lay the foundations for a future Mulready or Etty, or at least a practical pattern-designer, who will not be apt to violate in after life the natural laws and first rudiments in the harmonies of colour.

List of New Manufactures.

Useful and Ornamental.

[On the same principle as the Literary Journals give a list of new publications issued weekly, so we propose to afford to manufacturers, &c., the opportunity of announcing the novelties they bring forward, accompanied with such brief remarks as will be strictly explanatory, which, under the circumstances, our readers will have the goodness to bear in mind are made on the responsibility of the producers.]

Flashed Glass Vase.



Manufactured by Apsley Pellatt and Co. The colours are blue and white;—20 inches high.

Enamelled Wine Glass.



Manufactured by Richardsons, of Stourbridge. (At Green's, St. James's Street.)

Letter Clasp and Pen Cleaner



Manufactured by Messenger and Sons (Birmingham), in Ormolu and in Bronze; the mouth clasps the Paper, and the bristles on the mane clean the Pen. (At Cundall's, 21 Old Bond Street.)

Inlaid Black Marble Vase.

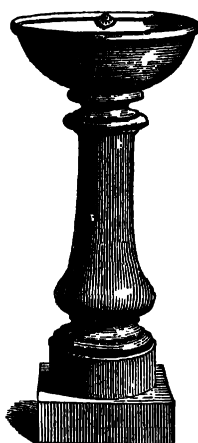


Manufactured by Hall, of Derby;—18 inches high. (At Tennant's, Strand.)

Note.—Manufacturers are requested to forward illustrative woodcuts for this list as early in the month as possible. Those who may not have woodcuts ready, and desire them to be prepared expressly, may be recommended to apply to Mr. Bolton, 381 Strand.

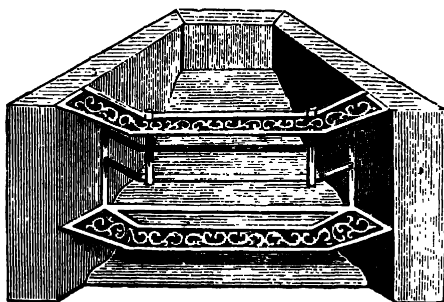
"The Pottery Fountain Handbasin has been expressly adapted to the new system of constant water supply, and therefore directly meets the objects described by the Board of Health. It saves the labour of fetching water; enables persons to change the water as often as they please; and lastly, it saves the trouble of carrying it away in the dirty state, a process imposing a heavy task on a servant, and no little inconvenience on a family. They are manufactured of hard vitreous pottery, some plain, others ornamental, but all useful. The former are sold at 20*s.* fitted with taps of the same material. These vessels will readily be fixed by any plumber conversant with such work. They require neither wood nor brickwork about them, but simply to have the supply and discharge pipes attached, and be screwed down to the floor. Besides these self-acting Handbasins, another kind has been prepared for dwelling-houses that have no regular supply of water. This is called the Cottage Fountain Basin. The form and principle are the same as the others, but instead of a supply pipe, it has a pottery reservoir placed against the wall; this is filled and emptied by hand. The conveniences in other respects are the same."

The Pottery Fountain Handbasin.



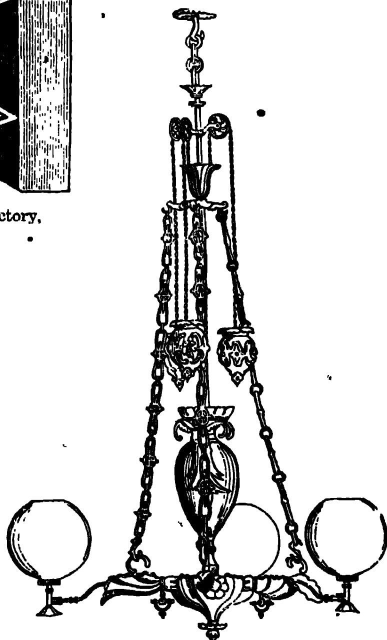
Manufactured by J. Ridgeway, of Cauldon Place, Stoke-on-Trent.

Universal Fire-Lump Grate.—This is made of the finest prepared Fire Loam in one entire piece; very strong, with large Hobs, Improved Iron Bars, Bottom, and Trivet, complete; will burn either wood, coal, coke, or peat.



Pierce's Pyro-Pneumatic Stove-Grate Manufactory, 5 Jermyn Street, Regent Street.

Brass Gas Chandelier



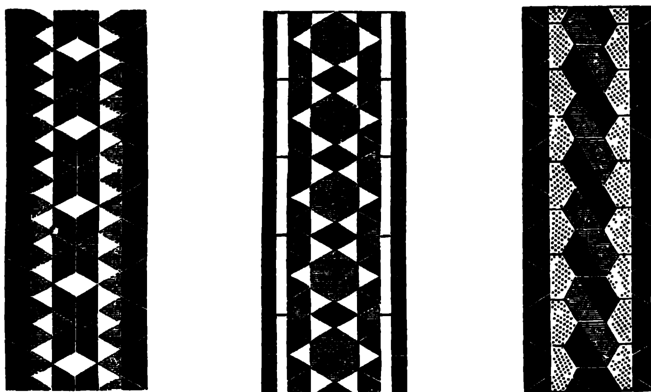
(At Clark's, No. 447 Strand.)

Statuette from Sir Joshua Reynolds, Muscipula.



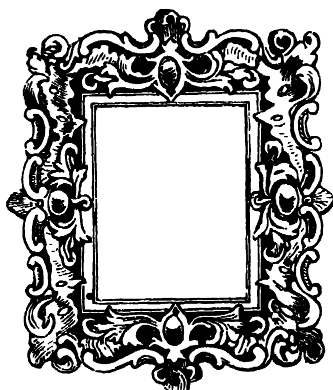
Manufactured by Copeland; 7 inches high. (At Cundall's, 21 Old Bond Street.)

New Mosaic Borders for Halls and Passages.

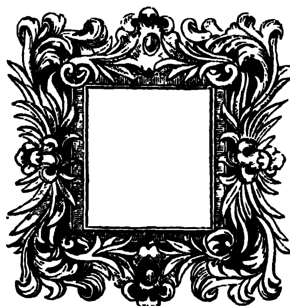


Manufactured by Minton and Co., Potteries, Stoke-on-Trent.

Picture Frames, manufactured by C. F. Bielefeld, 15 Wellington Street North, Strand.



(Sight measure, 4 in. 1-8 by 3 in. 1-8.)



(Sight measure, 3 in. 1-16 by 2 in. 11-16.)

Miscellaneous.

THE FAILURE of the recent Act TO PROTECT INVENTIONS exhibited in '51 is beginning to excite general public attention throughout the country. The *Builder* remarks, that "the performance of the Commissioners' promise, as the matter now stands, is 'like the play of Hamlet with the part of the prince himself left out.'" We understand that Lord Radnor, Sir John Guest, M.P., the Right Hon. T. M. Gibson, M.P., Mr. Prosser, Mr. Minton, and Captain Ibbetson, among others, have agreed to act on the committee of the Society of Arts to promote a legislative recognition of the rights of inventors. All manufacturers who wish for a better patent law should forthwith communicate with the Society their willingness to aid.—We may also notice that Mr. Milner Gibson, who had been busy the last session with the taxes on knowledge, shewed, before the end of the session, that he was not unmindful of the taxes on invention. He inquired whether, on the appointment of the present Attorney-General, it was understood that the emoluments of that office arising from fees on patents should not be allowed to stand in the way of a reform of the law of patents? And Lord J. Russell replied that the Attorney-General would be perfectly willing to assent to any amendment

of the patent laws if it were for the public benefit, and would not allow any interest of his to come into competition with that of the country at large. This is satisfactory and must not be forgotten.

The ART-UNION of London have just issued the etchings of MR. MACLISE'S beautiful DESIGNS for Shakspeare's SEVEN AGES to the subscribers of 1849 and 50. They alone are worth the subscription; but, in addition, engravings of Mr. Webster's popular "Frown" and "Smile" have been given away. The Council have offered a premium of 100*l*. for the best model of a single figure, 20 inches high, to be cast in bronze, and a premium of 50*l*. for the next best. We could wish that, instead of an unlimited competition, the Council had selected three artists, and ordered three works, for we do not believe they will ever get by competition anything but second-rate productions.

Every one knows that the Pope of Rome is such a monster that this Protestant country cannot hold diplomatic communion with him; but it seems the Exhibition of 1851 has broken even this hostility between the two countries, for we find it announced that "the Pope has named a committee to take into consideration the best steps to be adopted relative to the transport of articles of Roman manufacture to the great Exhibition of London." What if it should bring the Pope himself hither? We may be excused from mentioning that he would actually find more of his children by several thousands in London than he has in his own metropolis.

It seems that, in common with others, we were deceived by the announcement lately made that the TWOPENNY FEE for ENTERING ST. PAUL'S had been abolished. The wretched clink of the money-changers in the temple still sounds, to the disgrace of the Chapter, one and all, who thus practically set the gospel of their Master at defiance, or prove themselves positive infidels. We had hoped better things of Dean Milman!

MEMORIALS TO SIR R. PEEL.—These continue still to be promoted actively in several places. At the Bradford meeting, the Mayor bore testimony to Sir. R. Peel's interest in the Exhibition of 1851, and related the following anecdote, the accuracy of which we can corroborate:—At a meeting held at the New Palace Westminster, at which some 80 or 100 mayors, from various parts of the kingdom, met the Royal Commissioners for the promotion of the Exhibition of 1851, Sir R. Peel was present. The meeting lasted about four hours, each topic being discussed *seriatim*, and all the gentlemen present being invited to express their opinions upon each topic. As might be supposed, among so many persons assembled, there were various and opposite views taken upon some points. After each topic had been fully discussed, Sir R. Peel rose, and took up the views of those present as they had expressed them, and in a manner the most fascinating, proceeded to dilate upon, adjust, and as it were to bring together these views in such a manner, that he ultimately came to one point, and his own views, thus matured and adjusted, were submitted to the meeting and unanimously adopted. This occurred again and again; on each occasion Sir R. Peel adopted the same course, and in each instance secured perfect unanimity. After this had proceeded for more than three hours, one of the Royal Commissioners seated near him (the Mayor) touched his arm, and said, "Mr. Forbes, did you ever witness such a man in your life?" and he confessed that he never had, for certainly during his whole life he had never had seen a man display such urbanity, kindness, and extraordinary ability. After they had proceeded about three hours, he observed Sir R. Peel take a sheet of foolscap paper, and whilst the discussion was still going on, take a pen and write till he had nearly covered the four pages. At the proper time Sir R. Peel rose, and read the document he had written, in which he had embodied the whole of the proceedings, and which document met the views of the whole assembly, and was unanimously adopted. The Mayor said that he mentioned these circumstances to shew the extraordinary business tact, discrimination, judgment, and prudence, which were combined in Sir R. Peel, and the manner in which he conciliated and secured the esteem of all whom he addressed.—The occasion alluded to was when the selection and rejection of articles were discussed.

If report speak truly, the SHOW FROM INDIA in the Exhibition next year will be very startling. News came by the last overland mail that the following articles were to be sent:—A large tent with gilt poles, covering of finest cachmere shawl-cloth, all over embroidered with gold and silver; an etui of beautiful opaque, gold bound, the top forming a radiant centre set in diamonds and rubies; a magnificent couch and six chairs, of carved ivory work, presented by the Nawab Nazim to her Majesty; a couch cushion worked in gold and silver thread, with the names of Victoria and Albert, the initials being diamonds, and the others letters in pearls

of large size; 120 life-size figures, representing the various occupations of Hindoos, with working implements complete; and a very extensive assortment of native jewellery and gold ornaments from Delhi and Cuttack.

At the laying of the FIRST STONE of the SCOTTISH NATIONAL GALLERY by Prince Albert, on the 30th August, his Royal Highness made a speech, which, though brief, was excellent for its philosophical tone. He said,—"The building of which we have just begun the foundation is a temple to be erected to the fine arts,—the fine arts, which have so important an influence upon the developement of the mind and feeling of a people, and which are so generally taken as a type of the degree and character of that developement, that it is on the fragments of the works of art come down to us from bygone nations that we are wont to form our estimate of the state of their civilisation, manners, customs, and religion. Let us hope that the impulse given to the culture of the fine arts in this country, and the daily increasing attention bestowed upon it by the people at large, will not only tend to refine and elevate the national tastes, but will also lead to the production of works which, if left behind us as memorials of our age, will give to after generations an adequate idea of our advanced state of civilisation. It must be an additional source of gratification to me to find, that part of the funds rendered available for the support of this undertaking should be the ancient grant which at the union of the two kingdoms was secured towards the encouragement of the fisheries and manufactures of Scotland; as it affords a most pleasing proof that these important branches of industry have arrived at that stage of manhood and prosperity, that, no longer requiring the aid of a fostering government, they can maintain themselves independently, relying upon their own vigour and activity, and can now in their turn lend assistance and support to their younger and weaker sisters, the fine arts. Gentlemen, the history of this grant exhibits to us the picture of a most healthy national progress,—the ruder arts connected with the necessaries of life first gaining strength; then education and science supervening and directing further exertions; and, lastly, the arts, which only adorn life, becoming longed for by a prosperous and educated people. May nothing disturb this progress; and may, by God's blessing, that peace and prosperity be preserved to the nation which will insure to it a long continuance of moral and intellectual enjoyment."

In another page our readers will find some remarks of a correspondent on the subject of ornamental fountains (*vide* p. 62). They would seem to be very well timed, for we hear that the TOWN OF BIRMINGHAM has felt the want which this letter expresses, and has commissioned one of the most distinguished of its manufacturers, Mr. Messenger, to construct an ornamental FOUNTAIN FOR THE MARKET PLACE. It is intended to be upwards of 18 feet high, and of a highly decorative character. The materials used are to be bronze and stone, and it is to be completed in time for the great Exhibition. Birmingham may be congratulated as taking the lead among towns in employing this beautiful mode of decorating its public buildings.

ART-INSTRUCTION AMONG THE WORKING CABINET-MAKERS.—We are glad to reprint from the *Morning Chronicle* the following interesting information on this subject:—On the first-floor of a small private house in Tottenham Street, Tottenham Court Road, is, so to speak, the museum of the workingmen belonging to this branch of the cabinet-makers. The walls of the back-room are hung round with plaster casts of some of the choicest specimens of the arts, and in the front-room the table is strewn with volumes of valuable prints and drawings in connexion with the craft. Round this table are ranged the members of the society—some forty or fifty were there on the night of my attendance, discussing the affairs of the trade. Among the collection of books, may be found "The Architectural Ornaments and Decorations of Cottingham," "The Gothic Ornaments of Pugin," "Tatham's Greek Relics," "Raphael's Pilaster Ornaments of the Vatican," "Le Pautre's Designs," and "Baptiste's Collection of Flowers" (large size), while among the casts are articles of the same choice description. The objects of this society are in the words of the preface to the printed catalogue, "To enable wood-carvers to co-operate for the advancement of their art, and by forming a collection of books, prints, and drawings, to afford them facilities for self-improvement, also by the diffusion of information among its members, to assist them in the exercise of their art, as well as to enable them to obtain employment." The society does not interfere in the regulation of wages, in any other way than by the diffusion of information on the subject, so that "both employers and employed may, by becoming members, promote their own and each other's interests." The collection is now much enlarged, and with the additions which have been made

to it, offers aid to the members, which in many cases is invaluable. As a means of facilitating the use of this collection, the opportunities of borrowing from it have been made as general as possible. The meetings of the society are held at a place where attendance is unaccompanied by expense; and "they are, therefore," says the preface, "free from all objection on account of inducements to exceed the time required for business." All this appears to be in the best possible taste, and the attention of the society being still directed to its improvement, assuredly gives the members, as they say, "good reason to hope that it will become one of which the wood-carver may be proud, as affording valuable assistance, both in the design and execution of any style of wood-carving."

Fine Art Decorations of the Houses of Parliament.—In some parts of these buildings the higher class of ornaments has been injudiciously applied. In the external decorations it does not appear to have been kept in mind that, in the best examples of such works, the more elaborate and expensive parts, such as representations of human figure, have been reserved for the points only of the composition producing the greater effect from being as sparingly used as may be in accordance with the style of the structure. On the contrary, in the Houses, a large portion of the outside is sprinkled lavishly with little niches and figures, which are not apparent except on close inspection. To remark this it is not necessary to get an order to view the works, as it may be observed in the end of the building parallel to Westminster Bridge, by any passer-by. The equally distributed profusion of ornament there displayed defeats its own object. Had the greater part of decoration been of a lower and more conventional character, and the more expensive details confined to such points, as to form, as it were, the *eyes* of the composition, the effect would have been bolder and better, and the cost less. The extra expense lavished on these ineffective figures would have supplied funds for the furtherance of the building, or for a few paintings or sculptures of high art withinside (to which situation in this climate the finer class of decorations should be confined), and where they would have told, and have interested the public. But these observations do not apply to external decorations alone. In the House of Lords the valuable and excellent frescoes by Messrs. Cope, Dyce, Horsley, and Maclise, are placed too high on the wall for their being properly seen; where mere blazoned spaces would have produced nearly as good an effect; and where single emblematic colossal representations of Justice, Mercy, Religion, Peace, Resolution, Eloquence, or the like, on gold backgrounds, would have been far more striking. Within the Houses are many spaces where the same genius might have been employed more to the advantage of the public, where the labours of the artists might have been not only nearer the eye and more easy of access, but in a better light than close to painted windows; for in the daytime, though the art in the windows is not of a very high character, yet, from their being transparencies, the light of nature asserts itself over that of art in the frescoes, greatly to the detriment of the latter, especially when blurred with the rays through the coloured glass. For the niches of the same apartment are to be executed in bronze, life-size, the effigies of the barons who signed Magna Charta. These niches are contracted, but mere conventional figures being easily made to partake of the architectural and constructive effect, so as not to affect the mind of the observer with the idea of constraint, would have been in accordance with their position; but add to such figures the freedom of nature and the high art to be expected from such artists as Macdowell, Thrupp, Thornycroft, and the others employed to execute these statues, and the art and the situation are at variance; indeed, the better the art is the more constrained may be the effect. The niches would be better for a more conventional filling, and the high art for a more unconfined field. These kind of mistakes, and the expense attending them, are among several injudicious arrangements which have taken away the confidence of the public, and which now causes that want of enthusiasm, which would not, we believe, be the case were the public convenience of access better attended to, and the money voted more carefully expended. A. M.

Ornamental Fountains.—The cry has been, "Our climate is not one for fountains; we do not admire the look of water in November; we have too much wet, as it is, in our island!" Might we not as well say, "We do not want any watering the roads, or any ornamental pieces of water?" For many years the only well-known fountain in London was one in an out-of-the-way court in the Temple, which threw up a jet of an inch diameter to some ten feet in height; yet its rarity made it a marvel, which did not, however, for a long time, produce any competitors in London. At length the ornamental basin in St. James's Park exerted

itself, and succeeded in producing "a little go" about two feet high, which, by a simple adaptation of the form of the tube at the top, was made to throw itself about in a thin sheet of water like a convolvulus. This was not a great success: nevertheless the idea continued its travel westward, and, embarking on the Serpentine, left not those limpid waves till at the further end, in Kensington Gardens, it had resulted in a marvellous dumb-waiter or jelly-stand, which poured out its water to the admiration of the children, nursery-maids, and even of the more critical visitors, who though they might not approve the form of the affair, still were pleased with the motion and sound of the falling water. Some time after the establishment of this, the British public and its committees were called on to lay out and adorn Trafalgar Square, in which task, overlooking the ground-plan of the space, which would naturally, one would think, have suggested *two* columns or masses of decoration, perhaps one dedicated to Wellington and the other to Nelson, where the present fountains are; it was not until the present column was erected, which stands in a line between the centre of the National Gallery and King Charles's statue, so that none of the three objects are properly seen from the front access, Parliament Street, that it was discovered to be still necessary to have some well-marked objects where the present fountains stand, which forthwith arose; and, in spite of their not being very ornamental, and in spite of *Punch*, it were not venturesome to affirm that they are attractive and pleasing objects to the public; that they are one of the points of the metropolis, and that they greatly enliven our principal square; and, in addition, I would ask whether we are not apt to feel some degree, however slight, of disappointment when we pass that way and do not see them playing? As an individual, Mr. Editor, I do, and I hope you do. Now this is, I believe, the present progress of fountains in public places in our metropolis, whereas there is good reason that we should have as many as in Paris, —nay more, inasmuch as London is the larger city, and better supplied with water, and for the purpose not only of pleasing the eye, but for greater comfort and health. In these sanitary days, it would surely be in accordance with the feelings of the people to have *many* public fountains; and I would ask why, where public memorials are placed, should they not be associated with a use, which would at the same time much improve their ornamental character? Mr. Chadwick is now moving the supplying London with the purest water; and it is to be hoped that when conveyed hither, some part of it will be distributed in a graceful and ornamental manner. But it is not only that there has existed a prejudice against fountains in metropolitan situations, but in other places such as public and private gardens, whether large or small, they are a rarity; and yet wherever they do exist, they are a point of attraction, especially to children, those unbiassed critics! A little fountain, with a few waterlilies and gold-fish, is a region of delight to such little people, and no small pleasure to older observers! The motion of water is so varied and glistening, and the sound of the falling drops so suggestive of refreshment, that wherever a fountain is seen playing you may observe young and old looking at it. And in a garden it is so *useful*. It should form a centre ornament, holding such a situation as to serve for the more easy watering of the plants; and may be fed easily from a cistern by being played some two or three hours a-day, if there be not a sufficient supply to keep the jet constant. There is another consideration connected with the subject quite overlooked, that some of our most beautiful and easily-cultivated plants are water and rock plants, situations for which the fountain supplies; for the water-plants in the water; and for the rock-plants on the sides of the reservoir: which is cheaply and easily made of blocks of stone; moreover the occasional spraying of the water over these last supplies moisture in the manner most in accordance with the plants' nature. It is strange that for this purpose alone we do not see them frequent in all gardens of pretension, such as Kew, Hampton, Kensington, Chiswick, &c. In the latter place, at least in those grounds which the Duke of Devonshire so kindly opens to the public on the last horticultural fête in each year, I had but the other day the occasion to observe how dead and dull the principal portion of the ornamental garden appeared from its possessing no Fountains, which would have enlivened, cherished, and refreshed the whole view. Being, as you see, an enthusiast in fountains, I have ascertained the cost and difficulties of erection of such affairs, which are really very slight. But these considerations of erection are, perhaps, more in the province of your contemporary the *Builder*. At any rate I will not venture to take up any more of your time at present, and indeed only wish you to notice this as it may call attention to the subject. A. M.

"CURRANT" FLOCK PAPER FOR GENERAL PURPOSES.

Manufactured by W. Woollams and Co., High Street, Marylebone.



Readers of the JOURNAL have frequently had practical evidence before them of the good taste of Messrs. W. Woollams and Co., and we are sure they will agree with us that the above pattern will sustain their reputation. The designer has not merely shewn his feeling for the graceful and varied forms of the currant foliage, but has skilfully distributed them over the surface. It is a paper suitable for rooms applied to every purpose. The same pattern is also manufactured in various colours.

Original Papers.

OBITUARIES OF EMINENT MANUFACTURERS.

Memoir of the late James Thomson, Esq., F.R.S., of Clitheroe.

THE opinion in Lancashire for a long time has been unanimous, that this gentleman was the recognised chief of calico-printers. Whether to protect the interests of the trade, or to advance its scientific or artistic capabilities, James Thomson was the first name in every one's mouth to be consulted as the leader on such questions. We have often heard him called the "Duke of Wellington of calico-printers;" and when the subject of the Exhibition of Industry of all Nations was brought before the principal men in Manchester, all said, "Consult Mr. Thomson as soon as possible."

It was a common saying of Mr. Thomson, that once become a calico-printer there are but two courses before you, "the *Gazette* or the grave." "I," he used to add, "do not like the one, so I shall die in harness;" and he did, at his works at Primrose, near Clitheroe, on the 17th September, in his seventy-first year. Paralysis, which had attacked him so often before, that he used to say "he had been dead five times," was the cause of his death. He was born at Blackburn 6th February, 1779, and passed the greater part of his life in the heart of the cotton-manufacturing district.

At the age of fifteen he was sent to study at Glasgow, where he formed a friendship with Gregory Watt, with James Watt himself, and Thomas Campbell, the author of "The Pleasures of Hope," &c. But he remained at College only a year, and then formed an engagement with the firm of Joseph Peel and Co., in London. He resided in London for six years, associating with Sir Humphry Davy (whom he claimed to have introduced to the Royal Society), Wollaston, and Porson, and the most eminent literary and scientific men of the day. He left the London counting-house for the establishment at Church Kirk, near Accrington, where he remained nine years, having married, meantime, Cecilia, eldest daughter of the Rev. Thos. Starkie, vicar of Blackburn. In the year 1811 he established himself at Primrose, near Clitheroe, where he followed the occupation of calico-printing for forty years.

Mr. Thomson was thoroughly conversant with all the details of calico-printing. The chemical department was, however, his favourite one, and his laboratory was furnished with a complete assortment, not only of apparatus fitted for the purposes of testing, but with that used by the scientific chemist in all the refinements of his research. The scientific library attached to this laboratory is one of the most complete chemical libraries in this country. Mr. Thomson used to engage chemists at considerable salaries to superintend the laboratory, and among others may be mentioned Dr. Lyon Playfair, who is still accustomed to speak with delight of the intellectuality of Mr. Thomson's character during his residence with him. His general attainments were of a high order. He had the peculiar faculty of obtaining all the essential points of a work without much study. Rarely found to read a book through, he had the happy knack of extracting and making himself master of its principal features. His fund of information was very extensive, and of that character which rendered it available in conversation. His general library was extensive and well selected, particularly in the fine arts. The excellent and polished taste of his daughters made this a prominent object of study at Primrose. His collection of works of art is not extensive, but generally well chosen, although their selection has been much influenced by the desire to encourage the labours of particular artists with whom he had formed a personal friendship. Some of the best portraits of the principal chemists of his time are now in his possession,—among them may be mentioned the only good portraits existing of Davy, Dalton, and Phillips.

The peculiar characteristic of Mr. Thomson's character was his indomitable energy and tenacity of purpose. Every detail of management was pursued with a vigour and determination of will, which rendered him the mainspring of his whole establishment. Even when enfeebled with illness and confined to bed, his managers and foremen were frequently summoned by six o'clock in the

morning for the purpose of ascertaining the progress of the works, and methodising their future proceedings. He rather enjoyed a serious difficulty for the purpose of removing it by determination. On such occasions, frequent were the interviews by his bedside, not only with the managers, but even with the workmen in whose department the erring work had occurred. It was rare, indeed, that he did not succeed in soon obtaining a proper current and uniformity of work; indeed, so certain was it, that his bedside interviews were generally denominated the "windings up of Primrose clocks."

Few men engaged in commerce possessed a keener appreciation of the value of science and art as applied to manufactures. His own scientific knowledge and cultivated taste having been directed, at a very early period of his life, to the industrial pursuits to which he devoted himself, demonstrated to him that the farther their application was carried the greater the success. Hence he was ever the first to encourage any mechanical or chemical improvement in calico-printing,—not waiting until his neighbours had shewn what could be done with it, but, if at all feasible, at once trying what it was worth. This speculative tendency, whilst costing money, gave him immense advantages, and to this cause may be ascribed his success as a scientific printer. In art, his long and persevering efforts in favour of Schools of Design prove how much he valued the decorative part of his trade, in which, comparatively speaking, he was always lavish in expenditure. As an example, he kept an eminent English designer four or five years resident in Paris, and exclusively employed him for his house, at a salary which would have alarmed the small fry who then nibbled at his best productions, when not bold enough at once to pirate them; and yet the designs produced by this artist only formed a portion of those purchased to select from. The Manchester School of Design may be said to have been almost exclusively supported by his purse and influence; and this is quite certain, that had it not been for his indomitable perseverance and determination, it would have been long since abandoned. His influence and example carried it through the difficulties which beset it before it became connected with the Government School at Somerset House, and it was through his management that that arrangement was successfully effected in the first instance; for being a member of both Councils, he was looked to in each as the man who above all others understood the wants of such institutions. The success which followed the connexion of the Manchester School with the Somerset House School gave him the greatest possible satisfaction, and his chagrin was in proportion when he found himself the unconscious instrument, for such he really was, of a change which precipitated his pet institution from its flourishing condition in 1845 to its almost useless state, for all practical purposes at least, in 1848. Still his liberality never seemed exhausted, and during the period between 1845 and 1848 he expended nearly 300*l*., in addition to the regular annual subscription of his firm, upon the execution of a medal by William Wyon, from a design by Gibson. This medal now forms the highest prize given in the School, and is appropriately named the "Primrose Medal," from his print-works and residence near Clitheroe. Add to this a donation of 100*l*. at the period he used his efforts to get the School out of its difficulties prior to its connexion with the Government; and we find that James Thomson stands at the head of the list of donors to the amount of 400*l*., whilst the other 100*l*. donations were certainly owing to his example, and those by calico-printers were collected by himself before his first attack of the fatal paralysis which eventually carried him off. That the repeated attacks of this disease, from which he so long suffered, had a tendency to undermine his former vigorous and powerful intellect, no one can doubt,—not so much, perhaps, as regarded its exercise in the ordinary routine of life, but in enfeebling his *will* and in leading to hasty judgment, where formerly he would have deliberated, and in all probability arrived at a different conclusion from the facts placed before him. This was eminently the case in the question of the management of the Manchester School of Design in 1845, since on that occasion he took a totally different view of the points at issue between the Manchester Council and the Director at Somerset House to that which he had been accustomed to take. The melancholy death, in 1847, of his brother, Mr.

Edmund Peel Thomson, who managed the Manchester business of the firm, deprived him of a valuable colleague; still, with the assistance of his sons and nephews, this veteran calico-printer maintained his reputation in the market, and, as already stated, died in harness, preparing for what we have no doubt will be a triumphant display of the capabilities of his house in the coming Exhibition of 1851, to which his keen perceptions must have caused him to look forward as the realisation of much for which he had laboured,—the recognition of science and art in connexion with the industrial pursuits of mankind.

The successful issue of the efforts for a Copyright of Designs Bill was largely owing to Mr. Thomson. This led to his being intrusted, in conjunction with others, to conduct the opposition of the calico-printers to the Bill which limited the labour of children in print-works; but many bitter complaints were made on this occasion by his clients, the printers, as to the manner in which, *as they said*, he sacrificed their cause, rather than oppose the Government. He was wiser than his colleagues, and yielded when he saw that opposition was useless, and would only bring disgrace, and a charge of selfishness upon those who conducted it, since public feeling was certainly in favour of subjecting print-works to the same laws as cotton-mills.

Authorship among manufacturers is rarer than is desirable. Mr. Thomson was a writer, and among other things published three pamphlets on the subject of Copyright in Design. They are very scarce, and we feel we cannot close this notice better than to reprint portions of one of them, which will be found to bear very pertinently on the question of Copyright in Inventions, which is now beginning to engage the public mind:—

"I am one of those who have petitioned Parliament to extend the protection to original designs or patterns, printed on woven fabrics, from three months to twelve; and the object of this letter is to explain the grounds of this application, and to state more fully, and in detail, than has hitherto, I believe, been done, the peculiar circumstances which call for, and justify, the further interference of the Legislature in our behalf.

"PROTECTION TO TRADE is a suspicious phrase, and suggests ideas of favour to one branch of manufacture or commerce over another.

"EXCLUSIVE PRIVILEGE is often but another name for advantage to one party at the expense of another.

"We seek, however, no such advantage; we ask no such protection or privilege; we recognise fully, and admit the general principle, that our manufacture should not be propped up or upheld by a tax on the pockets of the public, but should be left to stand or fall by its own merits. What we ask is *protection for our property*,* which, from a defect or an error of the law, is *insecure*. This will best appear from the following statements:—

"The art of calico-printing was introduced into this country towards the close of the seventeenth century, and continued to advance during the succeeding seventy or eighty years, as was shewn by numerous small, yet prosperous establishments formed in the neighbourhood of London. About this time the manufacture was transplanted into Lancashire, and received, along with most other branches of industry in the north, a great impulse from the inventions of Watt and Arkwright. I have been informed, by one† who was deeply engaged in this industry, and with whom I was myself, in after life, associated in business, that such was the incredible activity and dispatch with which the productions of the London printers were copied in Lancashire, and poured back into the London market, that they were driven to seek the protection of the Legislature against this ruinous piracy; when, after several Acts, renewed and amended, a copyright of three months was, in 1794, finally and permanently established. Thus were given, for the *first time*, 'THE RIGHTS OF PROPERTY' to original patterns and designs, which, being like the husbandman's spade, the product of labour, skill, and capital, ought to have been equally sacred and secure. The town printer, by this law, was protected, in his own market, during three months of the principal demand in spring, and a corresponding period of autumn. It secured him against the ruinous depredations of unchecked piracy, but it did not give to him the full enjoyment of his OWN; and he had often the mortification of seeing the most successful of his patterns most in demand long after the protection had expired, and affording

* Precisely the demand of inventors at the present time.—*Ed. J. of D.*
† "The late Jonathan Peel, Esq., of Accrington House."

profits to his servile copyist, when, by such competition, he had ceased to receive profit from it himself. Under such protection, however, imperfect as it was, the trade flourished; nor did the printers of Lancashire, in consequence of the new law, fall back, as was predicted; but, guided by the more refined and cultivated taste of their London rivals, they continued to prosper, till, under the circumstances of a singularly favourable locality, affording cheap labour, cheap fuel, water-power, and conveyance to every part of the globe, they finally absorbed nearly the whole of the trade of London. One small remnant, and that the choicest, still exists, sheltered only by superior taste and fancy.

"It was never pretended, at that day, that the trade would be driven abroad if one portion of it was not allowed to pilfer the other; and the school of PIRATICAL-ECONOMY was not then founded, which has since arisen, building its tenets on the practice of the *pirates of Manchester and Glasgow.*

"There are, in the print trade, as in other great branches of industrial art which afford scope for taste and talent, two great classes. The first, high in character, fewest in numbers, and foremost in the race of competition, and long known as the source from which have flowed, during the last forty years, so many of those improvements in chemical and mechanical art, by which calico-printing has been carried to its present high perfection. It includes some of the youngest establishments in the country, which have risen to deserved eminence and reputation, alike distinguished by high principle, correct taste, and refined execution.

"The second class is a numerous, motley, heterogeneous mass of dissimilar and discordant elements, linked by one common principle of preying on the inventions of others, and associated with vulgar ignorance, discerning avarice, and unscrupulous morality. This is the *nest* and *nursery* of *piracy.* There are, apart from these, and not to be confounded with them, some men of character and worth who defend the policy of short copyright, or no copyright at all, on mistaken principles of political economy. Their opinions are mischievous, but, being founded on honest conviction, are entitled to respectful consideration.

"The space which separates these two classes of calico-printers was, many years ago, considerable—especially as regarded practical skill and execution. Time and the course of improvement are fast wearing away this boundary, and each succeeding year approximates the two classes more closely.

"The chief distinction of the foremost class consists in the novelty of their *styles*, and the general merit and good taste of their *designs;* in which, though far below the French, they have greatly surpassed their competitors at home. But, in consequence of that 'INSECURITY OF PROPERTY,' which arises from the limited duration of copyright, all motives for exertion, to equal the taste and elegance of the French, and which adequate remuneration alone would excite, are now entirely wanting.

"Who, Sir, will plough and sow to reap but a tithe, or perhaps the gleanings of his field? Who will plant a tree if another is to carry off the fruit? A tenant may repair his roof to shelter himself from the storm, but who will adorn his house to be ejected at quarter-day? What calico-printer will make hazardous and expensive provision for the public taste, when the failure is to be wholly his own, and the success is to be divided with others?

"A deep conviction, Sir, that a *mistaken application of general principles, arising from imperfect knowledge of the facts,* has been the cause of that denial of justice of which we have long complained, and the hardship of which has brought us again to the door of the House of Commons, induces me most earnestly to beseech your attention, and the attention of those to whom, through you, I here address myself, whilst I enter into some details, dull and tiresome I fear they may prove, yet essential to a clear understanding of the subject.

"Any form or combination of forms, printed upon a woven fabric in one or more colours, constitutes *a pattern,* and may be the subject of copyright, if *original.*

"A number of patterns, all agreeing in some one general character, but differing in the individual forms, or in the detail, constitute *a style.*

"STYLES differ from each other like styles of higher art—as Gothic does from Grecian for example, if I may, without ludicrous presumption, employ the illustration.

"Styles derive their general character, either from *form* or *colouring.*

"*Form* may be varied sufficiently from the original type to *avoid* or *evade* copyright, without departing from the style.

"*Colouring* as a character of *style* or *pattern,* can never be made the subject of copyright.*

"COPYRIGHT protects individual forms or *patterns only,* and *not styles.*

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* This position may be questioned. The gradations and combinations of colours are as varied as the direction of lines.—*Ed. J. of D.*

"Thus COPYRIGHT in patterns, the bugbear of piracy and the aversion of political economists, through erroneous and imperfect knowledge of the facts, *leaves free and unfettered the whole domain of taste and fancy in patterns for printing.*

"I shall illustrate this subject by a reference to some styles, which are perhaps sufficiently known, to be rendered intelligible to those who possessed no technical knowledge of manufactures.

"IMITATION OF LACE by printing, is a style revived with great success, from time to time, in the shape of borders or dresses, in black lace or white. Every old wardrobe in France has lately been ransacked for *old lace*, which has become fashionable in that country, and has been imitated in this by engraving, and printing upon cloths of various fabrics. This style is not new, any more than lace itself is new as an article of dress; yet new and *original* designs upon net-work are entitled to copyright; but any one may design and print imitation of lace, not because the style is old, but because all styles, from the moment of their publication, are imitable. *Copyright protects patterns, not styles.**

"TARTAN OR SCOTCH PLAID is another style, originally a production of the loom, but imitated with success, by printing on cotton, or silk, or woollen. The taste for this style of dress seems to return at uncertain, but not very distant intervals. It is difficult, if not altogether impracticable, to obtain effects in tartan that can be considered *original*, and for which copyright could be maintained. Colouring, it must be remembered, cannot be made the subject of copyright, and it is by colouring chiefly, rather than by form, that the diversity of plaids is produced. Lines and stripes crossing each other at right angles, variable only in their relative breadths, offer slender materials for fancy; hence the general monotony of effect after a few changes and combinations have been made. The Highland chiefs seem to have appropriated the best effects of this style. But if the simple structure of the Highland plaid be departed from, and forms more complicated be introduced, engrafting as it were, one style upon another, original effects may be produced, and claim an copyright.

"There is a style, of Oriental origin, well known to the fashionable world and to manufacturers, called CACHMERE, from which country those beautiful shawls were first brought, which are now so perfectly imitated, I had almost said surpassed, both here and in France. The Cachmere forms derive their character from the loom, but they are successfully produced on cloth, both by copper and wood-engraving, and are used almost in every article of female dress, as shawls, scarfs, mantles, cloaks, robes, &c. &c. The last two seasons, in this country, but more especially in France, the printers of calicoes and mousselines de laine, have used the cachmere forms extensively, turning, twisting, and torturing them into a thousand new shapes, with such extraordinary fertility of fancy, and good taste, that at each succession of new patterns the source from whence they spring seemed to grow more rich and inexhaustible. *Each* house had its own distinctive patterns; *every* house had a share, more or less, in the style.

"A style of older date, and also of Eastern origin, and distinguished by the Eastern name of CHINTZ, is composed of NATURAL FLOWERS, or of fantastic imitations of them, and has afforded to the printers of all countries since the first origin of the art, inexhaustible materials for invention and fancy. STRABO mentions them as the production of the country of Mosul, whence muslins derive their name. The India Company, many years ago, brought to this country splendid specimens of this kind of printing, called PALAMPORES, which were used for bed-covers. It was the jealousy excited by the importation of India chintz, which produced the clamour and rioting of the silk-weavers of Spitalfields, who complained that their manufacture was threatened with extinction by the introduction of the printed muslins of India! They were interdicted for home consumption in 1721; and here is to be found the true origin of the print-duty; in the protecting care of the Government for the silk-manufacture of England! It has been objected by uninformed and incompetent persons, that designs or patterns composed of natural flowers could by no possibility possess the quality, necessary for copyright, of originality. Such persons would object to the words found in Johnson's dictionary, for original composition; or to the use of wheels, teeth, levers, and springs, as parts of new machinery.

"It is an interesting fact, that the pure and simple taste of the Greeks rejected the use of natural flowers in their designs for female dress. A few of the borders of their dresses are composed of ivy or vine-leaves, or the honeysuckle, just as we see it in their architectural ornaments; but the forms employed in their patterns, as appears from a careful examination of the paintings of antique vases, are for the most part arbitrary stars, spots, rings, squares, and clusters of these.

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* Just as copyright in invention should protect *modes* or *means*, and not principles.—*Ed. J. of D.*

"The style called ARABESQUE has hitherto been used for interior decoration. The beautiful designs of Raphael, in the Loggia of the Vatican, are known to all the world, as well as the source whence he derived the first hints of the style, the baths of Titus. Since Raphael's days, the discovery and exhumation of Pompeii have brought to light a great variety of examples of this singular and *bizarre* style, which admits, notwithstanding, of great beauty of design. Let EASTLAKE decorate in Arabesque some gallery or corridor of the royal palace, every one would recognise there the magic tints and grace of Raphael's pencil, but none would find an infringement of his eternal copyright. The style in the hands of genius is inexhaustible.

"I was strongly tempted, some years ago, to attempt this style in printed furniture, which it was my wish to execute with all the advantages a royal academician could give me in the designs, and the talent of Potts in the engraving. On conferring, however, with various individuals connected with the furniture trade, I was dissuaded from an attempt which held out no prospect but of loss. The outlay would have been great; the time required to introduce and sell the work considerable, and the copyright only three months; after which, the whole host of copyists would have been let loose upon the patterns, for which, in all probability, they would have made previous preparation. No one could do justice to this style without incurring considerable loss, unless the protection by copyright was for *three years* at least. We learn from Dr. Bowring's evidence before the Committee on Arts and Manufactures, that in France certain articles of the manufacture of Lyons enjoy a protection of three or five years, and *some even in perpetuity*.

"This policy, I rejoice to find, has been recognised and partially acted upon by the late President of the Board of Trade, in a bill passed last session, extending copyright to various manufactured articles not before enjoying it: some for *one*, and others for *three* years. [Mr. Gladstone was this President, we believe.—*Ed. J. of D.*]

"My last illustration shall be taken from actual transactions in the trade more than thirty years ago; and I here present to you, Sir, an interesting collection of patterns, designed for, and delivered in the London market at that period. The first pattern, which forms the frontispiece to these pages, acquired a more than usual celebrity, at that day, from its NOVELTY; that is, from its bearing no resemblance to anything that had preceded it in the print trade; a somewhat unstable foundation for a permanent reputation, though the principal and indispensable quality sought for in articles of fancy or fashion. This pattern was the production of Mr. Lane, a calico printer of London, and is reported to have sold 30,000 pieces, or upwards of 100,000 dresses, in a very short time, and to have given birth to more imitations and varieties than any other individual pattern in existence. A singular feature of this pattern is that it is composed wholly of straight lines. Hogarth would search in vain for his *line of beauty*; yet, from some quality in the design, derived from the alternate divergence and convergence of the lines, and the variation of light and shade arising from it; perhaps, too, from the changing inclination or angles of these lines; it is certain that no pattern of its day, and few since, have had such universal success; it was sought after both at home and abroad, and was known by the name of Lane's net. The remainder of the series is selected from the endless variety brought forth at the time, and *not considered to be infringements on the original design*.

"Mr. Lane, by the production of this *pattern*, secured to him by copyright for three months, created a *new style*, and opened a mine of ideas for the whole trade; which mine was worked by the whole trade simultaneously, and in competition with Mr. Lane, opposing him with the means and the materials which he himself had created; and, soon as the three months expired, they opposed him with his own pattern also!

"This, Sir, is a part of the workings of that act which we are now at the door of the House of Commons praying to have amended.

"It is difficult to understand the principle upon which the first copyright act for patterns, in 1787, was framed, and which gave a niggardly protection of two months to original designs. I can understand the principle of the author's copyright bill, in which are reconciled the interests of the public with those of the author, by giving to the latter such share in the produce of his intellectual labour as will repay and reward *his* exertions, and operate as an incentive to *others*; whilst the public is guarded against the effects of inordinate monopoly, injurious alike to the interests of literature and the diffusion of knowledge. I offer no opinion on this agitated question, how far this principle has been fairly carried out. It is of the principle I speak, and which, I believe, I have correctly stated. The principle of patent for inventions is, in some respects, the same; the public gains the use of a new machine, or the knowledge of a new process, at the expiration of a certain term, during which the inven-

tor enjoys the profits of his invention as the reward of his genius; and when it has been proved to the legislature that the remuneration has not been adequate to the importance of the invention, as in the greatest of all patent inventions, the Steam Engine of Watt, the term has been extended by act of Parliament; a recent act of Lord Brougham's simplifies the extension of a patent by referring it to a Committee of the Privy Council.

"I look in vain, Sir, to the copyright of designs for anything analogous in principle to the two foregoing examples. I look in vain to new and original designs for anything analogous *in kind* to those intellectual efforts of genius destined to improve and delight mankind for ages yet to come; or to those inventions by which labour is abridged, human power increased, and the comforts and luxuries of life, by being made more cheap, are diffused more widely over the surface of the earth, and the sum of human happiness augmented. In these things the public has the deepest interest, and that interest is guarded by wise and cautious legislation.

"Where, Sir, are the points of resemblance between these great objects and that which forms the subject of this letter, and of the investigation now going on before a Committee of the House? I see none but what arises from a mistaken and a mischievous association of the idea of MONOPOLY with COPYRIGHT in *designs*, at which the legislature feels alarm for the public interest.

"If a pattern were an enduring thing, like an engine or a book, a reversionary interest in it for the public would be desirable and just; but patterns are for the most part like soap-bubbles blown in the sunshine; glittering and iridescent, they burst almost at the moment of their birth, and leave not a trace behind.* NOVELTY, the handmaid of FASHION, and sometimes the enemy of TASTE, enjoys but a short and fleeting existence—it is, of its very essence, quickly to fade and pass away. Some exceptions, 'few and far between,' affect not the general truth of this statement.

"The interest of the public then consists, not in wresting a short-lived copyright from the hands of the original designer, but in obtaining a succession of patterns, the best, the purest in taste, the most original in design that can possibly be produced, and this, Sir, after long experience and much reflection, I venture confidently to pronounce to be attainable ONLY *by such an extension of the term of copyright in designs, as will give the printer security for his property and a remunerating interest in his labours.*

"Then, Sir, will arise an active and honourable competition, beneficial alike to both, between two classes of printers, till then so hostile to each other. Necessity is the mother of invention, and those who have hitherto been content to copy, will then be compelled to invent, and those who have led the race must then redouble their speed.

"It is in the power of the legislature to place us on the scale of taste and refinement in industrial art, at that point precisely, which it shall choose we should occupy amongst the manufacturing nations of Europe. Reject the prayer of our petition, and we sink still lower on the scale; for to be stationary, whilst all around are advancing, is to retrograde. Grant half our prayer, and you remedy not half the evil; whilst some are relieved, the burden of the rest is rendered still more intolerable. Six months' copyright would protect the home trade printer from the effects of piracy on his home demand, but not on his foreign; there are many distant and important markets for his prints, which a six months' copyright could not include, and furniture printing, an important branch, would be left just where it now is. A six months' act would be a partial, ungracious, ungenerous boon to one portion of the trade, and an act of injustice to another. Give us then twelve months, which will include every class of printers in the trade; it will be received, not merely as an act of justice, which if delayed would at no distant period become an act of necessity, but as an act of grace.

"It will form the commencement of a new era in our art, when placed for the first time on a footing of equality with our rivals of France, *who have long enjoyed a twelve months' protection*, we can enter the lists with them in the department of TASTE in a fair and honourable competition.

"Then, Sir, we will attend your schools of design, we will raise the character of our artists by a more careful and liberal education, and a higher recompense; and we will seek wherever it is to found, in schools, in academies, and amongst artists of the highest grade both at home and abroad, for those materials and that character of art, which infused into our designs will by degrees, I hope not slow degrees, free us from that reproach, which is but too well deserved, of NATIONAL INFERIORITY OF TASTE AND FANCY."

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* "This is abundantly shewn by the evidence of Mr. Alderman Kershaw, before the select committee."

Mr. Thomson very clearly points out that Copyright in Design is the protection of property created by labour, skill, and capital, and should not be confounded with the ideas of "Protection to Trade," or "Exclusive Privileges," or with "Monopoly;" and all that he says in respect of Design is most pertinent to the rights of property in Invention—a subject Parliament will hear enough of next session.

CACHMERES, MOUSSELINES DE LAINE, AND CALICOES, PRINTED BY HARGREAVES, BROTHERS, FOR LIDDIARDS, FRIDAY STREET.

In going over Messrs. Liddiard's stock for the present season we find the same amount of general excellence, upon which we have often enlarged, although there is probably a smaller variety of patterns than is usual; at least it struck us that there were fewer positive novelties, for we should have been sorry to have been compelled to count them. We may suppose that, like other manufacturers, they are husbanding of strength for the "'51" display. The cachmeres are all excellent in colour and workmanship, and the majority are good in design. We find even among Messrs. Liddiard's patterns—such is the potency of fashion and example—certain imitations of woven *chenè* effects (which we have lately protested against, *vide* vol. iii., p. 180), not precisely so

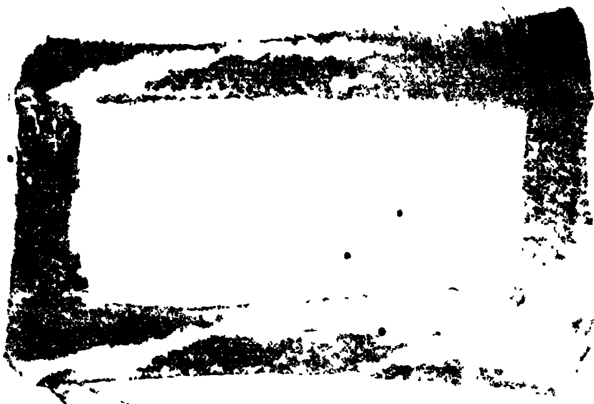


objectionable as many we have lately seen, but still sufficiently indicative of a tendency to the "sham" school, and that, too, when there are all the elements of the highest integrity to work upon,—beauty of material, facilities of execution, artistic skill, and, if exercised, sound judgment too. The damasklike effect produced in a clever arrangement of a rose—stem and leaves in trail, by the forms being given distinct in one colour from the ground, is a simple and practical illustration of how much can be effected in legitimate textile decoration by the most primitive means, for in this instance the brilliancy of the

colour and the elegance of the forms achieve the full result without any extraordinary combination of mechanical appliances. Another of the cachmeres is an illustration of a very opposite method, but the result is equally satisfactory; probably will be more so to the majority of buyers, for in it we find a variety of colour introduced and so distributed by "toby" work, that each corolla of the flower, a field poppy, seems at first sight to be of a different colour, and the "fit" is so excellent as to give each distinct spot its due amount of colour in the most artistic manner. We may have occasion, at some future time, to contrast these two styles of treatment, and enlarge upon them, when suitable samples present themselves for insertion.

In *mousselines de laine* the styles and designs are good, but some strike us as rather *passé*, whilst others are more striking than beautiful. In this material the new dahlia colour keeps its position.

Among the new *cotton prints* we have selected two designs, which are con-



structed on sound principles, and exhibit some novelty, particularly the lighter brown print. The arrangement of the flowers, whilst preserving the type of nature, skilfully produces a certain diaper flat effect. The design is well relieved on a simple ground, and the introduction of the higher lights on the flowers gives a brilliant liveliness to a print, which will at the same time please the rather sombre taste of the present day. Nearly the same remarks apply to the brick-coloured cotton, thought his last is perhaps somewhat less novel. In both specimens we have nature consulted and adapted to the particular purpose. There is no imitation of design more suitable to other materials, and both are prints which would become any wearer. Both fully and completely carry out everything aimed at by designer and printer. There is, we maintain, a full result; not an half-and-half attempt at something beyond the reach

of art, in imitation of something else, in which, after all, the better the result, the greater the "sham." Nor have we any feeble effort to produce relief by pictorial light and shadow, yet no one can look at them without being forcibly reminded of two distinct distances, but making one surface. In short, they are good, honest cotton, honestly decorated with that amount of artistic skill, which is content to aim at the *possible* only, and does it thoroughly and well.

In our September number we took a madder print as the text of the remarks then made upon this theme of dubious imitations. True to itself and its purpose as that example was, yet it could not be contended that it was the perfection of its class, and many persons might object to the want of contrast in its effect, whilst granting its fitness as an embellishment of surface. It was then promised to follow up the theme thus opened, and we now do so by directing attention to some prints by Messrs. Liddiard, in the ruling style, as examples of brilliancy of effect producible out of the very elements of monotony, which, it might be objected, was the feature of the September example. In these we have the effect of the brown and black relieved by the introduction of two "steam" colours, which, with the red and the white, enhances the value of the less showy parts. These colours, however, are not flung or tumbled into the design in the "any-how" style, but are carefully inserted, and play their parts in a reasonable position. Any woman, who knew how to dress at all, might select half-a-dozen contrasting and harmonising adjuncts to wear with these prints, and as lively an *ensemble* may be produced as could be got up from any material purchasable at ten times the cost; yet there is no mockery of a better material, or perhaps we should say no mockery of the material printed upon, and machined into a falsehood. Others of the cottons are very good, and the principle illustrated is preserved. A few of the chintzes are equal to anything they have latterly produced in the more simple styles of chintz effects. The remainder of the calicoes, particularly the "blacks and greys," or half-mournings, we must postpone noticing until another occasion, when we hope to draw a few suggestions and illustrative arguments from an example or two of these same *fabrics de deuil.*

IRON-WORK AND THE PRINCIPLES OF ITS TREATMENT.

(Concluded from p. 14.)

Much that in our September number we remarked concerning the moulding of iron into the forms, proportions, and details of Grecian architecture, will apply in an almost equal degree to the peculiarities of the Roman style, regarded from a similar point of view, with this exception, that in the general principles of design far greater latitude is allowable in this style than in the Grecian, and that in this, therefore, the judicious architect will meet with many more loopholes at which, with due judgment, his iron may be introduced; but subject always to at least these few points of caution, namely:—

Never to imitate in iron ornament peculiarly identified with stone or marble.

Never to let his use of iron, either in girders, columns, bressumers, or roofs, interfere with the vital proportions of the order, its intercolumniation, or the pitch of the pediments.

Never to construct in iron what may be as well or better executed in any other material.

To recollect that a needless display of strength is just as weak as an appearance of deficiency, and that both excesses are to the educated eye almost equally objectionable.

Above all, never to make his iron-work obtrusive, or to use any ornament to repletion.

"Within these limits, is there space enough!"

It is a great mistake to imagine that a so-called "rich" cast railing, a thing all spike, flower-standard, scroll, and dog-rail, will make a poor building, or

one destitute of ornament, look handsomer; like the beggar's cloak, it only draws attention the more readily to the poverty it almost invariably fails to conceal.

Another fertile source of unpleasing effect is, the habit of taking away an essential component part of any order, and using it in a situation in which it does not fulfil the purpose for which it was originally intended; such, for instance, as the introduction on the face of an iron bressumer of the entablature of one of the orders, without a symptom of the columns—its legitimate invariable companions; the use of a shaft for a lamp-post, with as few symptoms of an entablature; or the bringing down of the dignified Greek Doric column to the situation of cast-iron balluster to a staircase or balcony. *Vide* the British Museum, and London *passim*.

Sufficient instances of the various "perils that environ the men who meddle with cold iron" have now, we imagine, even in these two styles, been brought forward to develope the truth of our assertion, that the present state of design, as applied to iron in connexion with existing styles, is in a low condition, and apparently not conducted upon right, or, indeed, upon any fixed principles; and if, moreover, on a careful comparison of them with our own individual experiences, it should be found that improvement in the artistic treatment of the material within the last few years has been by no means adequate to the increase in its consumption, may it not fairly be inferred that a further increase in such consumption, and a more extended application of such material, cannot, unless a radical change take place, but prove detrimental to the general progress and improvement of design in other substances, since $ex + nihilo - nihil\ fit$ is the true formula?

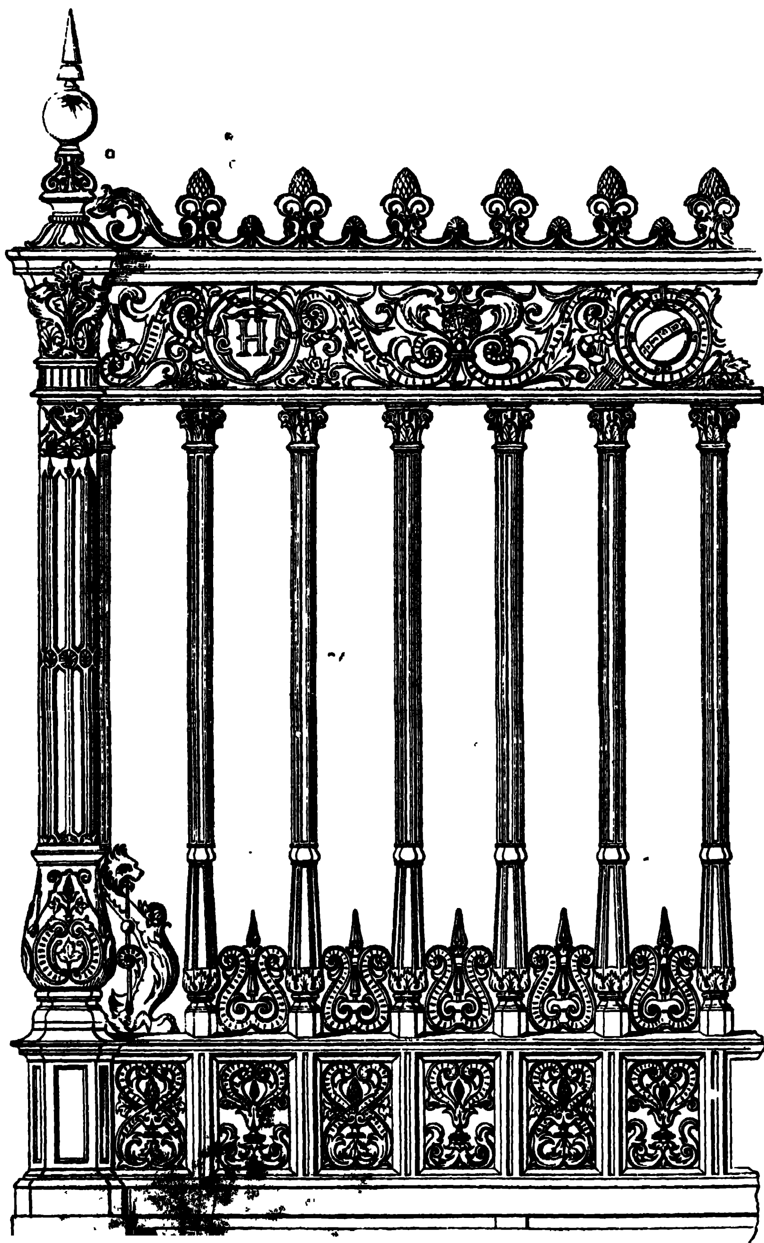
After the admirable remarks made by Mr. Pugin, in his "True Principles of Christian Architecture," any observations we could offer upon our subject, in connexion with Gothic architecture, would but be superfluous; yet we cannot refrain from bearing a humble tribute to the truth and justice of many of his propositions. The other day, in one of the modern churches, our eye was arrested and attention distracted by noticing the substitution of iron for stone piers to divide the nave and aisles; they were, of course, kept thin to facilitate the view of the preacher and east end, their effect consequently to the eye of any person accustomed to the ordinary rules of ancient proportion would be that of inadequacy to support the superincumbent weight,—strongly reminding one of spindle shanks,—mightily suggestive of Gothic in a consumption!

It is the more melancholy that such defects should commonly exist in modern attempts to connect iron-work with pointed architecture, since it is in the mediæval examples of processes and handicraft that we are forced to acknowledge some among the highest triumphs of the smith's art. In such compositions as the well at Antwerp, the enclosures of Henry VII.'s and of Queen Eleanor's tombs, the beautiful doorways of Ely and Rouen cathedrals, the hinges of Lincoln Cathedral, St. George's Chapel, Merton College, &c., we meet with specimens which may be easily referred to, and which, rightly studied, should convey to us tacit lessons, which, conscientiously acted up to, would lead with certainty to the recognition of the legitimate treatment of Gothic iron-work at once in point of general form, and in all the refined detail of fabrication.

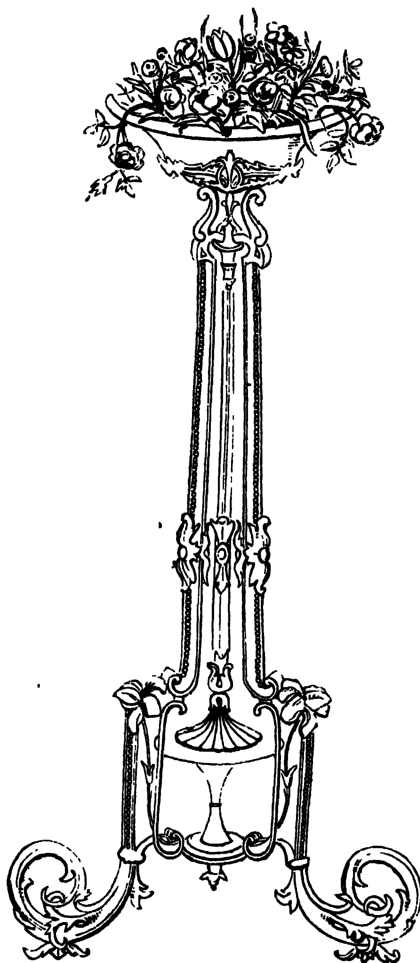
Among the happiest specimens we have seen of revived mediæval iron-work of a simple kind is the railing surrounding a tomb which has lately been erected in Rochester Cathedral. In the smaller objects of ecclesiastical use, Mr. Potter, the *protégé* of the Cambridge Camden Society, has done some creditable things; but in that particular branch, as well as in many others, Mr. Hardman, of Birmingham, reigns supreme—*facile princeps*.

As the course of national architecture approaches our own time more nearly, inconsistencies in the employment of iron become less apparent, and although in connexion with the classically Italian styles of Palladio and his contemporaries, the architect is in danger of some of the several stumbling-blocks we have connected with Grecian and Roman art; yet in our attempts

based upon the style of the period, when Italian forms and details were engrafted upon our habitual domestic modes of construction, we have perhaps more nearly approached success than in most of our other endeavours to wed the *dulce* with the *utile.*



Exceedingly beautiful specimens of the happiest treatment and execution of iron grilles and gates may be met with in the rich and flowing lines of the scrolls and flowers that may often be found worked in wrought-iron, decorating the entrances to many buildings of the days of Queen Anne and the two first Georges, evincing no ambitious assumption of the main features of the style it decorated,—not stealing here a moulding from stone, and there an ornament from wood, all bedaubed with a green-and-copper imitation of bronze, but exhibiting the really proper distinctive treatment of a subservient material, ornamenting buildings with the character of the architecture of which it assimilates, yet does not interfere.



Many specimens of this elegant style of railing, &c., about the odd and quaint habitations of our old English gentlemen, and more especially at Hampton Court, Oxford, and Hampstead, still attest the surprising dexterity of the smiths they must have employed. With some modifications, this style may be said to have predominated from the reign of Elizabeth down to the end of that of George II.

When from considering our progress in aping effete conventionalities, we turn to the origination we may be said to have given to the developement of new styles dependent on the imperative requirements and giant mould of modern civil engineering, we find the "lamp of Power" shining over all, while the "lamp of Beauty" occasionally lends its purer, happier ray, at least partially, to illuminate the objects with which it is brought into contact.

In those wonders of the world, the Menai and Conway Bridges, the simple and severe lines of the architecture accord most happily with the lofty simplicity of the thought, which would have evaporated had the frivolities of ornament been applied to it. In the High Level Bridge at Newcastle, Mr. Stephenson has succeeded in uniting the greatest grandeur of line with absolute perfection of scientific contrivances and economy of material. In the Hungerford Suspension Bridge, and in many of his other works, Mr. Brunel has shewn that his independence of meretricious and adventitious ornament is as great and as above prejudice as his engineering works are daring in conception and masterly in execution. From such beginnings what future glories

may be in reserve, when England shall have systematised a scale of form and proportion,—a vocabulary of its own, in which to speak to the world the language of its power, and its freedom of thought and feeling, we may trust ourselves to dream, but we dare not predict. Whatever the result may be, it is impossible to disregard the fact, that the building for the Exhibition of 1851 is likely to accelerate the "consummation so devoutly to be wished," and that the novelty of its forms and details will be likely to exercise a powerful influence upon national taste.

In the design of the thousand-and-one miscellaneous objects which may be included in the term "fancy castings," the English have made considerable progress of late years; and we trust, that as the practice of ornamental modelling becomes more universal among her workmen, she may soon rival the delicate foliage and handling of ornament which have rendered the French casters so celebrated.

In the railing we engrave (from Mr. Hope's new house in Piccadilly) the English manufacturer has an opportunity, without going far from home, of realising to himself the peculiar excellencies to which we allude. In it he will also recognise, if we mistake not, a superiority rather of hand than of head, a fertility of fancy rather than a refined perception of combination of line or purity of form,—an illustration of the practice of scribbling in the ornament without the revision necessary to bring the lines and proportions into proper harmony. The somewhat bungling stilting of the capital will suffice to illustrate our meaning. It is, however, a specimen the beauties of which are far more conspicuous than the faults, and it would be well if there were many such in London to criticise.

To the exertions made by the Coalbrookdale Company to elevate the character of the design of fancy castings too much praise cannot be given. The efforts they have made to elevate iron into a material for expressing the loftiest order of fine art, and the spirit with which they have enlisted the highest procurable sculpturesque ability redound to their credit. In such trifles as the elegant little flower-stand we engrave they shew a remarkable aptitude for the ornamental; and although occasionally we have found it necessary to reprobate the florid style of some few of their productions, still, on the whole, we have greatly admired the novelty and variety of their designs, and the invariable excellence of their work.

It is a gratifying thought that the Coalbrookdale Company are by no means alone in their exertions; by the Carron Company, and very many other founders, large sums of money are annually expended in endeavouring to enlist the best available talent.

No reflecting person can give a thought to the subject without perceiving that English formative art is changing in its conditions almost from hour to hour,—that there is a spirit of impulse abroad striving to effect reform without revolution in the science of design as in politics, and that an evil instead of a "good time is coming" for those who may choose too long *stare super antiquas vias*. What may be the ultimatum reached by iron, and how far its treatment may achieve approximate perfection in our time, is a problem none can solve. Schools of design may certainly do something,—commercial spirit and energy much more,—cultivation on the part of the public the most: how these may have been acting lately the Exhibition of 1851 must show; we can only now, in anticipation of that great event, and in concluding our necessarily scanty notice of this really great subject, express a hope that men of genius will throw off their apathy, will condescend to give their best attention to that which, sooner or later, must become an all-important branch of the profession of *design*, and so elevate their treatment of this material, that our grandchildren and great-grandchildren may not look back upon us, their progenitors, as unworthy sons of this most essentially *ferrea ætas*.

THE ART OF PAINTING UPON GLASS.

"To be ignorant of that which has preceded us is to remain in childhood, always."—SENECA.

THE forthcoming trial of skill in 1851, which has already excited reflection and inquiry, is fraught with incalculable benefits to industry and refinement. Art and manufacture, no longer deemed unworthy of the general attention of the intellectual of all classes, have for some time emerged from a condition of sterility, and now promise to become aroused from a mere application to normal necessity and to contribute efficaciously to the further amelioration of the condition of the many. No longer neglected, or misunderstood, art is arising amidst a state of society newly awakened to its importance, and, full of vigour, is animated by a spirit which may make the present period remarkable in the annals of the future as a point from which will date a new era in its history.

Of all the branches of the fine arts of which works are proposed for competition amongst the nations of the world, that of glass manufacture stands pre-eminent. The instigator of this grand trial of industrial and scientific skill, by the institution of a prize of a gold medal at the annual distribution of rewards by the Society of Arts, manifested a sense of the importance of an improved condition of the art in connexion with this branch of manufacture; and the Englishman should remark that it is one of the productions first alluded to by M. Dupin in his address to the manufacturers of France. Now that the incubus in the shape of an excise-duty has been removed from this line of industry, the British artist and manufacturer need fear no rivals: they cannot, however, rest satisfied with merely following or modifying the practice of their immediate predecessors,—they must act upon the warning given by M. Dupin to his countrymen,—"they must surprise by bringing forward improvements and inventions of which we dare not yet claim the honour for our manufactures."

No one branch of art is now more capable of improvement than that of painting upon glass, nor is there any which would better repay the labour bestowed, nor which would promise to become more generally utilised, did successful novelty attend the experiment. It is with a view to call attention to this art, legitimately our own in former times as the instructors of the Germans and northern Continental nations, that the following observations are made, and we propose to divide our subject into two parts:—first, to treat of that which has been accomplished down to our own time by a view of the processes in use, and, secondly, to examine whether any improvements are not capable of being introduced into this walk of art, so as to enable it to vie with the productions of the most successful period of its employment. Possessing all the practical skill which mere command of material may give him, the artist yet may wander from the conditions of his art, and may still be indebted to any technological knowledge to assist him in his intended improvements; and, by tracing the art from its origin, in the changes which have arisen during its progress, through gradual amelioration, excellence, perversion, neglect, and decay, he may be enabled to shun the causes which have influenced its decadence and seize an opportunity of future progress, through means supplied by the advance of modern science.

The Egyptian and Assyrian remains attest that the art of glass-making is lost in antiquity, for they shew a great perfection attained in the imitation of gems by means of silicates of different metallic oxides; and from Egypt was the art brought into Phœnicia. Although Pliny fixes the epoch of the introduction of glass workshops into Rome in the reign of Nero, yet it is almost certain that glass windows were known before that time; as when Nero had constructed the temple of Seïa of rock-crystal, the phenomenon of the refraction of light which the interior exhibited was remarked by those who witnessed it as being different to transmitted light, with which they were acquainted; while at Pompeii baths were found furnished with windows of white glass, as pure as our own. The introduction of glass windows is there-

fore of much more ancient date than the end of the third century, to which period it is generally attributed. Eraclius, who wrote about the time of Charlemagne, speaks of the means of producing a picture upon glass by grinding Roman glass—probably of various colours, of which Pliny writes—upon porphyry, and painting upon a *page* or *scroll* of fictile or glass-work with gum-water; these were then placed in the furnace. The same author also describes a white glass, or flux, for the purpose of painting upon glass, and was acquainted with the use of lead in rendering glass more fusible.

Theophilus, whose treatise upon the arts, written at the commencement of the 11th century at latest, and whose work forms the link between ancient and mediæval art, gives the earliest known directions for the production of painted glass windows; and these are fully given, and form the foundation of the future excellence of the art, so as to render it a desirable study* for all glass-painters. It is worthy of remark, that the window glass of this period is an alkaline silicate only, composed of two parts of beech-wood ashes and one of pure white sand, and is extremely hard and infusible. The process of forming the plate of glass is exactly that followed in most parts of France at the present day, and which affords a thicker and more uniform plate than our crown-glass. The earliest ornamented windows were probably of a mosaic pattern, formed with stained glass; but Theophilus describes the shadow colour proper for painting and drawing upon stained glass. He speaks also of a clear white glass, or flux, which melts as soon as it experiences the heat of the fire; this is to be used with glass of various colours, imitating gems, ground; glass cups and other things are then painted with them, and are placed in the oven for window glass. The mode of constructing the window is described, the drawing of the picture intended to be portrayed, the choice of glass of various tints, the cutting, the shadow colour with which glass is painted in different shades upon the stained glass, scraping out the lights, the painting of coloured ornaments upon the grounds, the application of gems where required, of white draperies on red grounds, of coloured draperies inserted in white grounds which are afterwards ornamented, carefully avoiding the use of much yellow glass, except were gold is intended to be represented. These are then laid side by side upon an iron plate, which has been covered with wood ashes or lime, the green and sapphire, being painted, are placed outside; the purple, red, white, and yellow, better resisting the heat, towards the interior of the furnace: when annealed they are joined together by lead and soldered. The tints used in painting are of white, black, green, yellow, blue, red, and purple glass; and Theophilus describes them as square, opaque, and as being found in the temples of the pagans. These are, doubtless, of the *vitrum Romanum* of Eraclius, and are those mentioned by Pliny, lib. xxxvi. c. 26. They were collected and used by the French likewise.

The green glass of the ancients was generally a silicate of copper, sometimes allied with arsenic and borax (*Egyptian alum*), or lead; sometimes bronze-filings were used (copper and zinc), lead being added. Blue glass was coloured with ultramarine, or with cobalt, mixed with a flux; or copper-filings were used mixed with an excess of salt (soda or potash), little heat being employed. Malachite powder was used for a jacinthe; arsenic, for a chrysolite; manganese (*magnesia*), for a violet, modified by ultramarine or cobalt: oxide of copper and black oxide of iron, either together or separately, formed the red, united with matter yielding carbon; antimony was used for yellow. One of the windows of Mans Cathedral is now supposed to be of the end of the 11th century, some of those of St. Denis are of the 12th.

In the 12th and 13th centuries we have no opportunity of an insight into the workshop of the artist-painter in glass, but the art made rapid strides, the greatest difficulties were grappled with and overcome, glass-painters became very numerous, greater taste was evinced, an intimate knowledge of legendary traditions gave facility in composition; a proper study of the effects and contrast of colours founded upon the combinations of mosaic windows, and great

* Arts of the Middle Ages, by Theophilus, the Monk. Murray, Albemarle Street.

skill in ornamenting the grounds, are shewn during this period. It is singular that in the part of Europe north of the Alps alone were the finest specimens of windows executed from the 12th to the end of the 14th century.

From the middle of the 13th to the end of the 14th century glass-painting progressed greatly; the Florentine school, created by Cimabue, gave a fresh impulse to the art during the latter part of that period: medallions enclosing subjects, or isolated figures upon mosaic or ornamented grounds, prevailed; the technical processes of Theophilus were still maintained; the art of flashing glass had made progress, and stained grounds were contrasted by white and various-coloured draperies in great variety, the shading process remaining the same. We have fortunately some directions given us in a manuscript of the end of the 14th century, and which in parts bears traces of Byzantine science; it gives the process of the manufacture of various coloured silicates and fluxes for the purpose of ornamenting glass. This MS. was copied in the 16th century at Bristol, and is now in the British Museum.*

Colours for Tinting Glass.

Blue or blavus colour—cobalt, or ultramarine, with purified crystal glass.
Emerald colour—from oxide of copper and yellow oxide of iron.
Ruby colour—from tartar, copper, and iron, or carbonate of potash and yellow oxide of iron.
Carbuncle—gold calcined, 1; carb. of potash, 2.
Sapphire—blue bi-carbonate of copper, or ultramarine, 1; potash, 2.
Jacinth—protoxide of gold, ½ part; ground iron, ½ part; potash, 1.
Emerald—red oxide of copper, a little; potash, 2.
Topaz—protoxide of lead; protoxide of gold, a little; potash, 2.
Garnet—protoxide of gold; hæmatite, a little; potash, 2.
Chrysolite—oxide of zinc, 1; potash, 2.
Turquoise—protoxide of gold, ½; blue bi-carb. of copper (*lapis armenus*); potash, 2.
Carnelian—oxide of tin, ½; potash, 2; golden marcasite, ½; oak ashes, ½ part.
Sapphire—1 ℔ finely ground crystal; ½ ℔ calcined stags' bones; ½ ℔ carb. of potash: melt it, and afterwards place ultramarine blue. (This glass would be opaque.)
Flux—nitrate, or bitartrate of potash and borax, equal qualities, with ceruse: mix with oil of eggs into a paste.
or crystal calcined, 1; carb. of potash, 2.
or crystal, and oil of tartar, fused together, and add nitre.
or glass well burnt, powdered, and washed, and melted with an equal quantity of borax.

The manuscript is worthy the perusal of the curious, but is extremely difficult to read.

During the 15th century the art received further aid from the Italian school of painting; the drawing of the figures was followed with minute care, richly coloured draperies formed the grounds; and the windows of this period, admirable in design, grew in similitude to the paintings to which the art was indebted; yet, in this and the following century, which was one of the finest epochs of the art of painting upon glass, was witnessed also the commencement of its decadence. Richness and profusion of ornament form the characteristic of works of these periods; but, however faultless in execution, the intention of the art became misunderstood, and the grand character of monumental or architectural window-painting became less and less appreciated. However vigorous when viewed near, at a certain distance these works lost effect. The first principles of the art, by which transmitted light was rendered subservient, were forgotten, and the innovations of the thoughtless made easy inroad, until the nature of the art itself became perverted, questioned, and nearly lost. From different MSS. of this period we find that the fluxes used were of crystal glass heated and thrown into alum-water to quench it, then

* Sloane MSS. in British Museum, No. 3661.

powdered; this is repeated several times: it is then ground with three times its weight of ceruse, fluxed by means of a long continued heat. Lead and tin were also calcined with salt, and melted with an equal weight of tartar; common salt being added, it is again calcined: this is repeated until it becomes a white calx; 7 lbs of this are then mixed with calcined bones, and melted. With cobalt, or ultramarine these fluxes give blue; with yellow oxide of iron, gold colour; with copper calcined to powder, and alkali, red; with tin, iron, and sulphur, black; with gold, ruby; with oxide of iron and sulphate of soda, green; with lead and sulphate of soda, chrysolite; with silver-leaf ground, yellow for penetrating glass. Cardanus, the Venetian, who flourished in the commencement of the 16th century, speaks of the art of colouring glass by means of some of the same metallic oxides; the Venetians used much lead and borax in their coloured glasses.

In the 17th century the practice of colouring white glass with various enamels of all colours indifferently chosen, which were used after the fashion of oil colours upon canvass, had commonly obtained. Bulengerus, who wrote in the first quarter of that century, remarks upon and censures this fact, as it is accompanied by great chance of damage to the work and loss to the artist: this style of painting was called "painting in apprêt," from the ground generally laid on to receive the colours. The white enamel, or smalt, of Bulengerus is composed of calx of lead and tin in powder, calcined with crystal glass in a furnace for a long time, then melted into a white enamel, which, when powdered, is to be mixed with all colours. These mineral oxides have been mentioned before, yellow is produced by silver. In 1715 a treatise on window glass was published in London, by which we see that many of the enamels used were still made at Venice and were those used by the goldsmiths. The enamels used by Heriot, the jeweller to James I., were of this latter class. In this treatise we find:—

Black—from scales of iron and copper, equal quantities; heat them red; jet, ½ a part: grind them and mix with gum-water, and paint on the glass.

Green—verdigrease, ground with turpentine, to be warmed when used.

Red—sanguis draconis (query colcothar, the residue of burnt green vitriol) rubbed in a mortar with spirit of wine.

Carnation—2oz. Tyn-glas; 6oz. jet; 10oz. red ochre; ½oz. gum: grind.

Blue—beads of blue glass in powder, 1; goldsmiths' blue clear enamel, ½: grind in gum-water.

Yellow—silver in small pieces, antimony in powder; place in the fire one hour, powder it when cold; take 1 part of the above, 6 of ochre, 7 flux; use it with gum water.

Grey—iron scales, crystal, jet, ground; the more jet the darker.

Diaper—crystal, ground with gum-water.

Fair red—red glass beads, 1; goldsmiths' red enamel, ½.

Thus, in the midst of an apparent progress and prosperity, the art gradually approached its decline. The great employment of grey grounds, or ornaments painted in a grey monochrome (*grisaille*), upon a white glass, and which process was carried into the art of monumental window-painting, the artists thereby striving to rival the effects of the oil-painters, however faultless in execution, tended towards a decay, which perhaps civil and religious discords ultimately hastened. Many windows of the preceding centuries disappeared to give place to those of the 17th century: the subjects were not disposed, as formerly, in the grand and isolated colossal figures of the 13th; or subjects centred in medallions of graceful form, or surrounded by grounds, brilliant with a thousand sparkling objects in carefully contrasted colours of the 14th; or even the rich borders of ornaments encircling the work of the 15th; these were laid aside; the united employment of a painting upon glass with glass coloured in the mass, thereby allowing for the effect of the transmitted rays of light, was neglected, the separation from the ancient traditions of the art was complete, and the art itself has languished from that period, we may hope to be restored in our own.

(*To be continued.*)

COMING REFORM OF THE PATENT LAWS.

THAT the public would help the Commissioners to keep their pledge to the world, that Inventors exhibiting in 1851 should be protected from the piracy of their designs and inventions, we never entertained any doubt whatever. And even thus early all parts of the kingdom are alive and volunteering their sympathy and aid in the cause of national honour and common honesty. The press is daily publishing the resolutions which Local Committees, in all parts of the kingdom, are affirming (*vide* vol. iv., p. 54). The Manchester Committee

"Observe with regret that no security is given by the recent Act for protecting patent right in machinery or important inventions, and resolve, that Her Majesty's Commissioners be requested to use every exertion for extending the privileges of the Act to mechanical and other inventions."

The Marylebone Committee "have ascertained that many valuable inventions are likely to be withheld from the Exhibition, unless some security be given to the Inventors that their interests will be protected from piracy, pending the completion of arrangements for taking out patents. The Committee are of opinion that a short Act of Parliament might be passed to attain the desired object, having reference expressly to articles sent to the Exhibition."

The opinion of the Exeter Committee is, "that full protection ought to be given to all newly manufactured articles sent to the Exhibition of 1851: such protection was expected, and this Committee hope that the General Committee will exert themselves to obtain the protection required."

"The Executive Committee for the city and county of Edinburgh, and the counties of Haddington and Linlithgow, regret to find the above Act does not extend to mechanical and other important inventions, and they trust that even before the Exhibition takes place, such alterations in the law will be effected as will admit the production of many inventors, who are now prevented from making public the fruits of their ingenuity by the difficulty and heavy expenses attendant on securing a patent."

Falmouth and other places express the same sentiments, and we expect, before long, to hear, not only that Committees generally have come forward with resolutions, but that everywhere they are preparing petitions to Parliament for a reform of the whole system of patents for inventions, to be presented the instant the Legislature assembles. Indeed, this larger object, if accomplished, would amply provide for the protection of articles exhibited. Hitherto the attempts to reform patents have failed, because they all proceeded on the basis of amending and patching up a system itself radically fallacious. It is contrary to the dictates of commonsense, that an inventor, who may be a benefactor to his country, should have to *petition* for acknowledgment of his right and for protection against the robbery of it. An inventor, who is a highly skilled labourer, has surely as much right to the results of his labour as a lesser skilled labourer, who only digs in the field; but the latter is not compelled to pray for the recognition of his obvious and natural right. It is only when monarchs are absolute over life and property, that men have to crave the recognition of such rights; and we shall find that our system of patents is but a remnant of the barbarism of the twelfth century, which neither in its principles nor its details will bear the daylight of investigation: sooner or later it will end by inventors obtaining a recognition of their rights by a simple and cheap mode of registration of them.

But the investigation must come first, and the public will now perform the operation for itself, and not leave it to be done for them by lawyers and patent agents, who, like Sancho Panza in scourging himself, are most considerate and merciful towards a system by the vices of which they thrive. It is a hopeful sign that we find so popular a writer as Charles Dickens, who is no patent agent or lawyer, turning his attention to this question of such deep interest to manufacturing industry, and appealing to his jury of a hundred thousand readers on behalf of the rights of Invention.

In a number of *Household Words*, just issued, we find "A Poor Man's Tale of a Patent" told so feelingly and graphically, that if it be not genuine, there is hardly another man in England but Charles Dickens himself that could

have written it. After describing his personal affairs, the poor man proceeds:—

"It won't be took as boastful in me, if I make the remark (for I can't put down what I have got to say, without putting that down before going any further), that I have always been of an ingenious turn. I once got twenty pound by a screw, and it's in use now. I have been twenty year, off and on, completing an Invention and perfecting it. I perfected of it, last Christmas-Eve at ten o'clock at night. Me and my wife stood and let some tears fall over the Model, when it was done and I brought her in to take a look at it.

"A friend of mine, by the name of William Butcher, is a Chartist. Moderate. He is a good speaker. He is very animated. I have often heard him deliver that what is, at every turn, in the way of us working-men, is, that too many places have been made, in the course of time, to provide for people that never ought to have been provided for; and that we have to obey forms and to pay fees to support those places when we shouldn't ought. 'True' (delivers William Butcher), 'all the public has to do this, but it falls heaviest on the working-man, because he has least to spare; and likewise because impediments shouldn't be put in his way, when he wants redress of wrong, or furtherance of right.' Note. I have wrote down those words from William Butcher's own mouth. W. B. delivering them fresh for the aforesaid purpose.

"Now, to my Model again. There it was, perfected of, on Christmas-Eve, gone nigh a year, at ten o'clock at night. All the money I could spare I had laid out upon the Model; and when times was bad, or my daughter Charlotte's children sickly, or both, it had stood still, mouths at a spell. I had pulled it to pieces, and made it over again with improvements, I don't know how often. There it stood, at last, a perfected Model as aforesaid.

"William Butcher and me had a long talk, Christmas-Day, respecting of the Model. William is very sensible. But sometimes cranky. William said, 'What will you do with it, John?' I said, 'Patent it.' William said, 'How Patent it, John?' I said, 'By taking out a Patent.' William then delivered that the law of Patent was a cruel wrong. William said, 'John, if you make your invention public, before you get a Patent, any-one may rob you of the fruits of your hard work. You are put in a cleft stick, John. Either you must drive a bargain very much against yourself, by getting a party to come forward beforehand with the great expenses of the Patent; or, you must be put about, from post to pillar, among so many parties, trying to make a better bargain for yourself, and shewing your invention, that your invention will be took from you over your head.' I said, 'William Butcher, are you cranky? You are sometimes cranky.' William said, 'No, John, I tell you the truth;' which he then delivered more at length. I said to W. B., I would Patent the invention myself.

"My wife's brother, George Bury of West Bromwich (his wife unfortunately took to drinking, made away with everything, and seventeen times committed to Birmingham Jail before happy release in every point of view), left my wife, his sister, when he died, a legacy of one hundred and twenty-eight pound ten, Bank of England Stocks. Me and my wife had never broke into that money yet. Note. We might come to be old, and past our work. We now agreed to Patent the invention. We said we would make a hole in it—I mean in the aforesaid money—and Patent the invention. William Butcher wrote me a letter to Thomas Joy, in London. T. J. is a carpenter, six foot four in height, and plays quoits well. He lives in Chelsea, London, by the church. I got leave from the shop, to be took on again when I come back. I am a good workman. Not a Teetotaller; but never drunk. When the Christmas holidays were over, I went up to London by the Parliamentary Train, and hired a lodging for a week with Thomas Joy. He is married. He has one son gone to sea.

"Thomas Joy delivered (from a book he had) that the first step to be took, in patenting the Invention, was to prepare a petition unto Queen Victoria. William Butcher had delivered similar, and drawn it up. Note, William is a ready writer. A declaration before a Master in Chancery was to be added to it. That, we likewise drew up. After a deal of trouble I found out a Master, in Southampton Buildings, Chancery Lane, nigh Temple Bar, where I made the declaration, and paid eighteen-pence. I was told to take the declaration and petition to the Home Office, in Whitehall, where I left it to be signed by the Home Secretary (after I had found the office out), and where I paid two pound, two, and sixpence. In six days he signed it, and I was told to take it to the Attorney-General's chambers, and leave it there for a report. I did so, and paid four pound, four. Note. Nobody, all through, ever thankful for their money, but all uncivil.

"My lodging at Thomas Joy's was now hired for another week, whereof five days were gone. The Attorney-General made what they called a Report-of-course (my In-

vention being, as William Butcher had delivered before starting, unopposed) and I was sent back with it to the Home Office. They made a Copy of it, which was called a Warrant. For this warrant, I paid seven pound, thirteen and six. It was sent to the Queen, to sign. The Queen sent it back, signed. The Home Secretary signed it again. The gentleman throwed it at me when I called, and said, 'Now take it to the Patent Office in Lincoln's Inn.' I was then in my third week at Thomas Joy's, living very sparing, on account of fees. I found myself losing heart.

"At the Patent Office in Lincoln's Inn, they made 'a draft of the Queen's bill,' of my invention, and a 'docket of the bill.' I paid five pound, ten, and six, for this. They 'engrossed two copies of the bill; one for the Signet office, and one for the Privy-Seal office.' I paid one pound, seven, and six, for this. Stamp-duty over and above, three pound. The Engrossing Clerk of the same office engrossed the Queen's Bill for signature. I paid him one pound, one. Stamp-duty, again, one pound, ten. I was next to take the Queen's Bill to the Attorney-General again, and get it signed again. I took it, and paid five pound more. I fetched it away, and took it to the Home Secretary again. He sent it to the Queen again. She signed it again. I paid seven pound thirteen and six, more, for this. I had been over a month at Thomas Joy's. I was quite wore out, patience and pocket.

"Thomas Joy delivered all this, as it went on, to William Butcher. William Butcher delivered it again to three Birmingham Parlors, from which it got to all the other parlors, and was took, as I have been told since, right through all the shops in the North of England. Note. William Butcher delivered, at his Parlor, in a speech, that it was a Patent way of making Chartists.

"But I hadn't nigh done yet. The Queen's bill was to be took to the Signet office in Somerset House, Strand—where the stamp shop is. The clerk of the Signet made 'a Signet Bill for the Lord Keeper of the Privy Seal.' I paid him four pound, seven. The Clerk of the Lord Keeper of the Privy Seal made 'a Privy Seal Bill for the Lord Chancellor.' I paid him four pound, two. The Privy Seal Bill was handed over to the clerk of the Patents, who engrossed the aforesaid. I paid him five pound, seventeen and eight; at the same time, I paid Stamp-duty for the Patent, in one lump, thirty pound. I next paid for 'boxes for the patent,' nine and sixpence. Note. Thomas Joy would have made the same, at a profit, for eighteenpence. I next paid 'fees to the Deputy, the Lord Chancellor's Purse-Bearer,' two pound, two. I next paid 'fees to the Clerk of the Hanaper,' seven pound, thirteen. I next paid 'fees to the Deputy Clerk of the Hanaper,' ten shillings. I next paid, to the Lord Chancellor again, one pound eleven and six. Last of all, I paid 'fees to the Deputy Sealer and Deputy Chaff-Wax,' ten shillings and sixpence. I had lodged at Thomas Joy's over six weeks, and the unopposed Patent for my invention, for England only, had cost me ninety-six pound, seven, and eightpence. If I had taken it out for the United Kingdom, it would have cost me more than three hundred pound.

"Now, teaching had not come up but very limited when I was young. So much the worse for me you'll say. I say the same. William Butcher is twenty year younger than me. He knows a hundred year more. If William Butcher had wanted to Patent an invention, he might have been sharper than myself when hustled backwards and forwards among all those offices, though I doubt if so patient. Note. William being sometimes cranky, and consider Porters, Messengers, and Clerks.

"Thereby I say nothing of my being tired of my life, while I was Patenting my invention. But I put this: Is it reasonable to make a man feel as if, in inventing an ingenious improvement meant to do good, he had done something wrong? How else can a man feel, when he is met by such difficulties at every turn? All inventors taking out a Patent MUST feel so. And look at the expense. How hard on me, and how hard on the country if there's any merit in me (and my invention is took up now, I am thankful to say, and doing well), to put me to all that expense before I can move a finger. Make the addition yourself, and it'll come to ninety-six pound seven and eightpence. No more, and no less.

"What can I say against William Butcher, about places? Look at the Home Secretary, the Attorney-General, the Patent Office, the Engrossing Clerk, the Lord Chancellor, the Privy Seal, the Clerk of the Patents, the Lord Chancellor's Purse-Bearer, the Clerk of the Hanaper, the Deputy-Clerk of the Hanaper, the Deputy Sealer, and the Deputy Chaff-Wax. No man in England could get a Patent for an India-rubber band, or an iron hoop, without feeing all of them. Some of them over and over again. I went through thirty-five stages. I began with the Queen upon the Throne. I ended with the Deputy Chaff-Wax. Note. I should like to see the Deputy Chaff-Wax. Is it a man, or what is it?

"What I had to tell, I have told. I have wrote it down. I hope it's plain. Not so much in the handwriting (though nothing to boast of there), as in the sense of it.

I will now conclude with Thomas Joy. Thomas said to me, when we parted, 'John, if the laws of this country were as honest as they ought to be, you would have come to London—registered an exact description and drawing of your invention—paid half-a-crown or so for doing of it—and therein and thereby have got your patent.'

"My opinion is the same as Thomas Joy. Further. In William Butcher's delivering 'that the whole gang of Hanapers and Chaff-Waxes must be done away with, and that England has been chaffed and waxed sufficient,' I agree."

This enumeration of stages seems too dramatic and ridiculous to be true; but it is not so, and every statement in it may be corroborated by the following dry account, collected from official sources and indisputable "blue books:"—

A RECITAL OF THE OFFICIAL STAGES, SO FAR AS THEY CAN BE MADE OUT, WHICH AN INVENTOR MUST UNDERGO IN OBTAINING LETTERS-PATENT FOR AN INVENTION IN ENGLAND ONLY, PROVIDED HIS APPLICATION IS UNOPPOSED.

Stage 1st.	Inventor prepares humble petition to the Crown			
2d.	Which he must fortify by a declaration taken before a Master in Chancery, and pay	£0	1	6
3d.	He delivers petition and declaration to the Home Office, in Whitehall, and pays			
4th.	Home Secretary signs petition after some days, and refers it to Attorney or Solicitor General	2	2	6
5th.	Petition taken to the Attorney or Solicitor General, at their Chambers, and the fees paid to them and Clerks are			
6th.	Attorney or Solicitor General reports in favour of petition, as a matter of course, unless opposed	4	4	0
7th.	Report taken back to the Home Office, in Whitehall			
8th.	Home Office prepares a warrant, which echoes the report, and is			
9th.	Sent to the Queen to sign			
10th.	Returned to Home Office, and	7	13	6
11th.	Home Secretary countersigns warrant, and the fees paid are			
12th.	Warrant taken to Patent Office in Lincoln's Inn			
13th.	Clerk of the patents prepares a draft of the Queen's bill and docquet of the bill, and the fees paid are	5	10	6
14th.	And engrosses two copies of bill, one for the Signet Office and one for the Privy Seal Office, fees	1	7	6
15th.	Stamp-duty on each	3	0	0
16th.	Engrossing Clerk of the Patent Office engrosses Queen's bill for signature, fees	1	1	0
17th.	Stamp for the same	1	10	0
18th.	Queen's bill taken to Attorney-General or Solicitor-General and signed by them, fees	5	0	0
19th.	Taken back to Home Secretary			
20th.	Sent by Home Secretary to the Queen			
21st.	Signed by the Queen	7	13	6
22d.	Returned to the Home Secretary, and the fees paid are			
23d.	Queen's bill taken to Signet Office, in Somerset House			
24th.	Clerk of the Signet prepares a signet bill for the Lord Keeper of the Privy Seal, fees	4	7	0
25th.	Clerk of the Lord Keeper of the Privy Seal prepares a Privy Seal bill for the Lord Chancellor, and stamp, fees	4	2	0
26th.	Privy Seal bill delivered to the Clerk of the Patents			
27th.	Clerk of the Patents engrosses the patent, and fees paid are	5	17	8
	Stamps for the patent, &c.	30	0	0
28th.	Clerk of the Patents prepares a docquet thereof			
29th.	Stamp for the docquet of patent			
30th.	Boxes for the patent	0	9	6
31st.	Fees to the deputy (?), the Lord Chancellor's Purse-bearer	2	2	0
32d.	Fees to the Clerk of the Hanaper	7	13	0
33d.	Fees to the Deputy Clerk of the Hanaper	0	10	0
34th.	Recipe of the Lord Chancellor for the Privy Seal bill, which he signs	1	11	6
35th.	Fees to the Deputy-Sealer and Deputy-Chaff Wax	0	10	6
		£96	7	8

Exclusive of fees in cases of opposition and for enrolment of the specification.

The above details are given as accurately as they can be collected, chiefly from returns made to the Commons, on the motion of Mr. Bouverie, and ordered to be printed 12th February, 1849, No. 23, from "Godson on Patents;" and the Report of a Treasury Committee on the Signet and Privy Seal offices, presented to Parliament, 1849. This Report makes the cost (including some payments for opposition), 98*l.* 2*s.* 6*d.*

METAL WINE COOLER, manufactured by Bradbury, of Sheffield.

The design of this vase shews an appreciation of the characteristic use of the material, inasmuch as the broad and rounded forms are admirably adapted for the lights and reflexes which distinguish the precious metals; although we



think we should hardly have selected the style which Mr. Bradbury has chosen for the very well-executed ornaments which form the accessories. The detail of the age of Louis XV. we would rather forget than perpetuate. The summer of butterfly *petits maîtres*, of courtiers frivolous and artificial, produced but little on which the memory can dwell with satisfaction; and the fantastic creations of the eccentric genius of Watteau constitute almost the sole pleasant reminiscence connected with the dominion of *barocque* and *rocaille*. Still the sharpness and angularity of the ornamental parts of this vase contrast advantageously with the broad and plain parts. Were we disposed to be hypercritical, we should perhaps object to the introduction of the naturalistic handles; in other respects the various ornaments are sufficiently well combined.

THE PROPRIETIES OF SCALE.

Electrotype, manufactured by Elkingtons, of Birmingham.

This little matter gives an opportunity to point out the principle that *scale* has much to do with propriety in a work of art. What is proper for one size, is not so for another, neither as to subject nor execution; and a pleasing statuette may often make a very bad statue. We think this would be the case with the present example. The same is to be observed in pictures, in



architectural decoration, and in all classes of ornament. There is a "*best size*" for everything, which it is as important for the designer to hit, as to select the best disposition of lines and colours. This is readily to be perceived in the patterns for carpets, papers, and woven and printed fabrics.

In the little "candlestick-bearer," to which we have just alluded, the scale

on which Mr. Elkington has produced it, seems to us appropriate; and its size (only twice that of the engraving) makes that pass muster very well which on a larger scale would appear absurd. The fairy proportions of the little juggler allow him to play Robin Goodfellow tricks! To lie in cowslips' bells, and to fly on bats' backs, &c., are privileges of the little "good people," of which we may suppose this animated candelabra to be one.

Were the affair larger we certainly should not like it so well. We may be amused by antics in children of which we should not approve in adults! To hit the best size for any decoration, a magnifying and diminishing glass, to test effects at various sizes, might be useful both to the workman and master, as we have not unfrequently observed a design injured by its being executed on a wrong scale. We must, however, observe, that the attempt to imitate the act of balancing is representing a child in a complicated action, who would have enough to do to balance himself. Still we can say in its praise, that it is well modelled. Besides Mr. Elkington's electrotype, we have seen the same figure reproduced in plaster.

EXHIBITION OF 1851: MONTHLY REPORT OF PROGRESS.

EVERYTHING—the building, the preparations of exhibitors, the demands for space, the announcements from abroad—is progressing most satisfactorily, and augurs a most brilliant ultimate success, which will extinguish the apathy of the lukewarm, and convert "hostile friends" into affected partisans.

We need not now speak in detail of the rapid advance of the building, except to say, that the Commissioners have felt themselves justified in issuing the following important invitation to decorators and designers:—

"MEMORANDUM ON THE DECORATIONS FOR THE BUILDING.

"Several applications have already been made by intending Exhibitors to the Executive Committee for the privilege of displaying *pavements, parquetrie works, fountains, ceilings,* and other similar objects in preparation for the Exhibition, as parts of the decorations of the building.

"The arrangements are now sufficiently matured to enable the Executive Committee to give the necessary information to parties who seek this privilege, and generally to consider any proposals of this kind which Exhibitors may be desirous of submitting to them.

"The Executive Committee will, from time to time, make known the progress of the works, and the class of decorations for which they will be prepared to grant the privilege of adaptation. At the present time the Executive Committee beg leave to announce that they are prepared to receive offers from any intending Exhibitors, whether native or foreign, for the exhibitions of *decorative ceilings, decorated iron railings, ornamental fountains, decorative works in scagliola, coloured cements,* and other *materials for walls,* &c.

"Wood-carvers, modellers, decorators, &c., desirous of executing specimens of ornamental ceilings, either in wood-work, plaster, papier mâché, or flat coloured decoration, are informed that, generally speaking, the spaces to be appropriated to ceilings will be surfaces of 24 *feet* square, 576 *superficial feet,* which will be seen at an elevation of about 19 *feet* from the ground. The spaces which may be filled with scagliola, cement, and other wall decorations, will be 14 *feet* high, with semicircular heads, and 8 *feet* wide.

"The height, width, and nature of the *ornamental fountains,* proposed for Exhibitions, should be specified by the parties wishing to send them.

"Parties wishing to exhibit *decorated railings* may obtain the necessary information by applying to the Executive Committee.

"Any spaces allotted to Exhibitors for these classes of objects will *not be included* in the allotments of space which may be made to them by any Local Committee. Before the Executive Committee can make an absolute guarantee of space in these cases, they would be glad to receive a communication direct from the parties themselves proposing to execute such works, stating the details of their character, accompanied with sketches sufficiently descriptive.

"All proposals must be forthwith submitted to the Executive Committee."

We hope to see a sufficient answer made to this by all the paper-hangers, decorators, &c., throughout the kingdom, who should bear in mind that the decorations to be admitted under this rule will not be reckoned as part of the

space they may receive in the allotments from Local Committees. The officer appointed to look after this particular business is Mr. Owen Jones.

The question of the FORMATION OF JURIES will soon have to be determined, and we reprint the general outlines of a scheme which was submitted to the Deputies who met the Commissioners in June last, and was entirely approved by them, and has been since sanctioned by the Commissioners. We believe the superintendence of the important department of Juries has been intrusted to Professor Playfair,—a better selection could not have been made:—

"PROPOSAL REGARDING JURIES, SUBMITTED TO THE DEPUTATIONS ON THE 28TH OF JUNE, 1850.

"The Commissioners are desirous of directing the attention of this meeting to the manner in which persons should be selected to act upon the Juries of Award. They feel that it is of great importance to obtain the services of those who have directed a practical attention to special branches of industry. It has been suggested to them that Local Committees might select persons of high character, and skilled in the special manufactures of the towns represented by these Committees. The qualification of the gentlemen thus nominated by the Committees being given, they could be conveniently classified into different groups, representing a special manufacture. An illustration of this scheme may be readily understood. The Committees of Manchester, Blackburn, Burnley, Glasgow, and other towns interested in Calico Printing, would be requested to nominate gentlemen possessed of a practical knowledge of the various branches of this manufacture. Some of the gentlemen would be particularly acquainted with specialities of this manufacture, as in Printing of Calico, of Mousselines de Laine, &c. The representatives of the branch of industry thus elected by the different towns in which such industry was carried on would form the jury upon all articles exhibited under that general head. In a similar manner the Committees of the North of England and of the West of England could furnish the names of those in whom they had confidence in the Woollen and Worsted Manufacture; Sheffield and Birmingham could recommend men versed in Cutlery and Hardware; London, Manchester, and Glasgow, in Machinery, &c. By thus consulting the Local Committees, the Commission would receive the names of gentlemen well versed in the individualities of each manufacture.

"The names thus sent up by the Local Committees, after being classified into the manufactures which they represent, would constitute the Special Juries on these manufactures. But as it would be inconvenient to have more than a certain number in each jury, it might in some cases be necessary to reduce to a given standard the numbers of names thus sent up. It has been suggested to the Commission that the reduction should be made by the Local Committees themselves, the names being sent to those towns who carried on the special manufacture represented by the Jury, and these Committees, selecting out of the list the requisite numbers, would by a majority of votes determine the names who were to act as the Special Jury.

"It has been considered that about twenty, or perhaps even thirty, of these Special Juries might be required. It would be obviously necessary to devise some plan by which uniformity of action, a guarantee for impartiality, and a means of reference against a disputed decision, might be secured. The plan suggested to the Commission is the following one:—Each of the Special Juries is to elect a Chairman to preside over their determinations. The Chairmen of the Special Juries are to be invited into a General Council or General Jury. This general body, consisting of the Chairman of the Special Juries, would not of itself make the examinations or awards; its office would be limited to the reception of the reports of the Special Juries, to the securing of a strict impartiality, and as a means of reference to disputed decisions.

"In constructing these Juries, it would, perhaps, not be requisite to exclude Exhibitors, but it would be made a strict injunction to the Juries that no person should sit in judgment upon the same class in which he exhibits. Thus a Special Juror in Silk, if an Exhibitor of Silk Velvets, should not be eligible to act as a juror on this class, but he might still appropriately act upon matters relating to Broad, Plain, Figured, and Fancy Silks, or other class in which he had no interest as an Exhibitor.

"It is believed that the persons nominated by the Local Committees would be enabled to act on the four great divisions of manufactures, as shewn by the classified list, some being more conversant with the Raw Material, others with the Machinery used in the production, others in the Finished Product, others in the application of Art and Design, and these would together form a Special Jury to whom the public might refer with confidence.

"In thus presenting a scheme for obtaining the English Jurors, it has been

thought proper not to complicate it with the question of how Foreigners are to be represented on these Juries, a subject now being attentively considered by the Commission. It is, however, the intention of the Commission to associate Foreigners with the Jurors of this country in the constitution of all juries."

It will be seen that the plan suggested is to make the formation of Juries wholly of an *elective* character, a decision which cannot fail to be most acceptable to manufacturers.

The tenders for printing the catalogue were delivered in on the 22d, and we believe that of Messrs. Clowes was found to be the highest. We see that to make a profit by the catalogue is called an "un-English proceeding," in forgetfulness that every other Exhibition has been accustomed to do so,—Royal Academy and all picture exhibitions, Agricultural Shows, the National Gallery, and, in fact, every institution without exception. And this curious objection is made by one who, in his notion of making the Exhibition self-supporting, actually contemplated descending to the minutiæ of assessing a "commission" on the value of the goods sold! The objection, however, it must be noticed, is from a competitor who intends to print a catalogue himself.

The aggregate meeting of the Metropolitan Local Commissioners took place on the 23d, at the Palace at Westminster; and it was a welcome sign to see how earnest and willing the most distinguished representatives of Art and Manufactures appeared to be to co-operate in promoting the great work. A statement of the demands for space was laid before the meeting, and the more remarkable of the deficiencies pointed out.

The next business will be, to reduce the demands for space to an amount that can possibly be accommodated. The Commission having settled the principle, the practical working out will rest wholly on the Local Committees.

Books.

LATTER-DAY PAMPHLETS. Edited by Thomas Carlyle.—Chapman and Hall, London.

OF necessity one who takes so wide and deep a survey of man and his works, as this modern Jeremiah, cannot overlook what we call the Fine Arts, and the way in which they symbolise man's thoughts and deeds. We form our ideas of Greece from the ruined statue of a Minerva or Olympian Jove; and the pictures of the Virgin, better than any Hollinshed, give us glimpses into the state of mind of our forefathers. And if past ages are estimated by these, will not our statues to the Duke of York, Hudson, the "good" Duke of Cambridge (that monstrous piece of jobbing flunkeyism of an age which preserved no memorial of the Queen Dowager!), convey to posterity some notions of what our beliefs and reverences were? Many passages abound in Mr. Carlyle's Latter-Day Pamphlets which will stir up readers to reflect whether the Arts, which it is the fashion to regard as mere ornamental superfluities, have not some higher and deeper purpose. We extract a few passages:—

"The Fine Arts are by some thought to be a kind of religion; the chief religion this poor Europe is to have in time coming: and undoubtedly it is in Literature, Poetry, and the other kindred Arts, where at least a certain manliness of temper, and liberty to follow truth, prevails or might prevail, that the world's chosen souls do now chiefly take refuge, and attempt what 'worship of the Beautiful' may still be possible for them. . . .

"If men's practical faith have become a Pig Philosophy, and their divine worship have become a Mumbojumboism, soliciting in dumb agony either change to the very heart or else extinction and abolition, it matters little what their fine or other arts may be. All arts, industries and pursuits they have, are tainted to the heart with foul poison; carry not in them the inspiration of God, but (frightful to think of!) that of the Devil calling and thinking himself God; and are smitten with a curse forevermore. What judgment the Academy of Cognoscenti may pronounce on them, is unimportant to me; what splendour of upholstery and French cookery, and temporary bullion at the Bank, may be realised from them, is important to M'Crowdy, not to me."

The present disunion of the Arts from the utilities of life, and the often impertinent way in which it is attempted to connect them, lead men of action, who do not see sufficiently far into the relations of the beautiful, to feel an impatience of them. An extreme case is illustrated by a dry utilitarian exclaiming, "I never catch a flower in my garden but I grub him up!" Our readers will recollect the saying of a lord (vol. i. p. 199), when the Bentinck statue was under discussion, that "the committee

did not want anything decorative." Mr. Carlyle notices the same kind of disbelief in the Fine Arts:—

"'May the Devil fly away with the Fine Arts!' exclaimed confidentially once, in my hearing, one of our most distinguished public men; a sentiment that often recurs to me. I perceive too well how true it is, in our case. A public man, intent on any real business, does, I suppose, find the Fine Arts rather imaginary. The Fine Arts, wherever they turn up as business, whatever committee sit upon them, are sure to be the parent of much empty talk, laborious hypocrisy, dilettantism, futility; involving huge trouble and expense and babble, which end in no result, if not in worse than none. The practical man, in his moments of sincerity, feels them to be a pretentious nothingness; a confused superfluity and nuisance, purchased with cost,—what he in brief language denominates a *bore*. It is truly so, in these degraded days:—and the Fine Arts, among other fine interests of ours, are really called to recognise it, and see what they will do in it. For they are become the throne of Hypocrisy, I think the highest of her many thrones, these said Arts; which is very sad to consider! Nowhere, not even on a gala-day in the Pope's Church of St. Peter, is there such an explosion of intolerable hypocrisy, on the part of poor mankind, as when you admit them into their Royal Picture-gallery, Glyptothek, Museum, or other divine temple of the Fine Arts. Hypocrisy doubly intolerable; because it is not here, as in St. Peter's and some other churches, an obliged hypocrisy but a voluntary one. Nothing but your own vanity prompts you here to pretend worshipping; you are not bound to worship, and twaddle pretended raptures, criticisms, and poetic recognitions, unless you like it;—and you do not the least know what a damnable practice it is, or you wouldn't! I make a rule, these many years back, to speak almost nothing, and encourage no speech in picture-galleries; to avoid company, even that of familiar friends, in such situations; and perambulate the place in silence. You can thus worship or not worship, precisely as the gods bid you; and are at least under no obligation to do hypocrisies, if you cannot conveniently worship.

"The fact is, though men are not in the least aware of it, the Fine Arts, divorced entirely from truth this long while, and wedded almost professedly to falsehood, fiction, and such like, are got into what we must call an insane condition: they walk abroad without keepers, nobody suspecting their sad state, and do fantastic tricks equal to any in Bedlam,—especially when admitted to work 'regardless of expense,' as we sometimes see them! What earnest soul passes that new St. Stephen's, and its wilderness of stone pepperboxes with their tin flags atop, worth two millions I am told, without mentally exclaiming *Apage*, and cutting some pious cross in the air! If that be 'ideal beauty,' except for sugarwork, and the more elaborate kinds of gingerbread, what is real ugliness? To say merely (with an architectonic trumpet-blast that cost two millions), 'Good Christians, you observe well I am regardless of expense, and also of veracity, in every form?' Too truly these poor Fine Arts have fallen mad!

"The Fine Arts once divorcing themselves from *truth*, are quite certain to fall mad, if they do not die, and get flown away with by the Devil, which latter is only the second-worst result for us. Truth, fact, is the life of all things; falsity, 'fiction,' or whatever it may call itself, is certain to be death, and is already insanity; to whatever thing takes up with it. Fiction, even to the Fine Arts, is not a quite permissible thing. Sparingly permissible, within iron limits; or if you will reckon strictly, not permissible at all! The Fine Arts too, like the coarse and every art of man's god-given faculty, are to understand that they are sent hither not to fib and dance, but to speak and work; and, on the whole, that God Almighty's *facts*, such as given us, are the one pabulum which will yield them any nourishment in this world. O Heavens, had they always well remembered that, what a world were it now!"

Buildings and Monuments, Modern and Mediæval. By George Godwin.—Published in the *Builder*.

The eighth number of this work completes one of the most interesting volumes, either for the architectural student or the general drawing-table, which the present season has produced. It strikingly proves how much art there may be in typography. The excellent printing in this volume quite alters the character of the woodcuts which originally appeared in the *Builder*.

The Art of Etching. By Alfred Ashley.—Darling, London.

So far as etching can be learnt from a book this work tells pretty clearly as much as is necessary, and is therefore useful to those who cannot have the benefit of any practical lessons from a teacher.

List of New Manufactures.

Useful and Ornamental.

[On the same principle as the Literary Journals give a list of new publications issued weekly, so we propose to afford to manufacturers, &c., the opportunity of announcing the novelties they bring forward, accompanied with such brief remarks as will be strictly explanatory; that the statements under these circumstances, our readers will have the goodness to bear in mind, are made on the responsibility of the producers.]

Inkstand and Letter Holder, in Bronze, &c. 5 inches high.



Manufactured by Messenger and Son. (At Cundall's, 21 Old Bond Street.)

Epergne in Silver, 20 inches high.



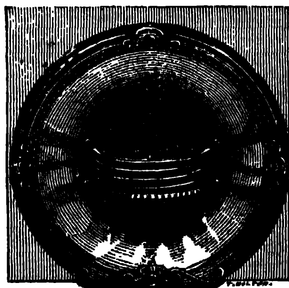
(At Gass's, 166 Regent Street.)

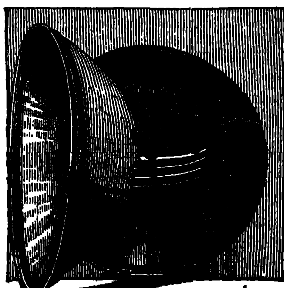
Jug, in Parian, China, and Earthenware.



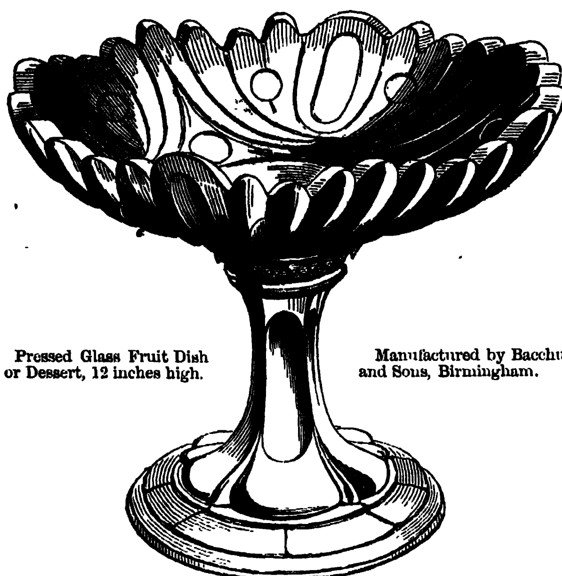
Manufactured by Minton and Co. (At G. B. Sander's, 319 High Holborn.)

New design for Jobson's Patent Stove-Grave, with bright Steel Ornaments.



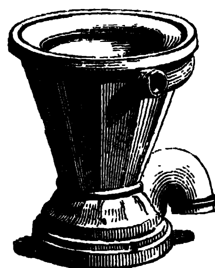


At Cottam and Hallen's, 76 Oxford Street, and Taylor and Co.'s, 10 Queen Street, Cheapside.



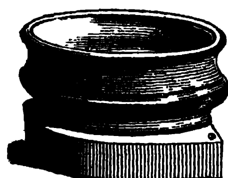
Pressed Glass Fruit Dish or Dessert, 12 inches high. Manufactured by Bacchus and Sons, Birmingham.

The Complete Pottery Water Closet.



Manufactured by J. Ridgeway, Cauldon Place, Stoke-on-Trent.

This article has been produced at the suggestion of the Board of Health; on the principle that hard, vitreous pottery is the best non-absorbent material that can be employed in its construction. The Board has also recommended the syphon trap as best adapted, both for flushing the pan and for keeping it free from smell. This water closet is adapted to the new system of constant supply; is worked with pottery or metal taps on the screw or lever movement; is not liable to be out of repair, and costs one-third the common sort. It moreover occupies much less space, answers for in and out door service, requires neither wood-framing nor brick-work, but simply to be joined to the service and discharge pipes, and to be screwed down to the floor. Although complete without any other appendages, the manufacturer will adapt it to receive covers made of wood, and also the usual frame of wood, so as to combine the cheap and simple with the more lasting and expensive.



The Receiver or Slop Pail is designed to extend the utility of the Pottery Fountain Basin (*vide* JOURNAL OF DESIGN, p. 57), by receiving clean water from a second tap, fixed at the lower part of the pillar for the purpose. The pail is joined in front of the pedestal, and receives, on the one hand, the slops of the room, which are discharged through a plug into the house drain, while it is, on the other, washed by the clean water pipe (as above), by means of which it is constantly kept fresh. They are adapted for cheap service to the dwellings of the humble classes, and for every variety of ornamental service to the mansions of the rich.

Note.—Manufacturers are requested to forward illustrative woodcuts for this list as early in the month as possible. Those who may not have woodcuts ready, and desire them to be prepared expressly, may be recommended to apply to Mr. Bolton, 331 Strand.

Miscellaneous.

The Society of Arts opens its Session on the 6th November appropriately enough with a paper on the nature of the Crystal Palace of '51, to be read by Mr. Paxton himself. We hear that the Council have not been idle during the recess, but have matured several arrangements likely to render the session a very useful and brilliant one. The increase of new members to be proposed at the opening will be considerable.

The Art-Union of London have offered two premiums of 100*l.* and 50*l.* to sculptors for a statuette 20 inches high, and they propose to exhibit the models sent in at the Exhibition of '51.—It is an excellent idea, which we think would be realised all the more perfectly if the competition had been limited and not general.

Schools of Design.—We have only space enough at command this month to notice, that Mr. Wornum has been lecturing on Characteristics in Style at the Central School, and that the annual meeting has been held at Sheffield, which was numerously attended. Earl Fitzwilliam was in the chair. The report noticed the continued prosperity and increasing financial resources of the institution; and announced that two scholarships, one of 20*l.* and the other of 12*l.*, had been established; the former to be held for two years and the latter for one year. These were in addition to the mayor's prize of ten guineas for the best original design of an article of Sheffield manufacture. The special class for ladies had been very successful, being now attended by fifty-three pupils. The chairman, in his address, drew attention to the liberality of the Government to this School as one of the first class. As to the ground for hope of great improvement in the taste with which the British, as a first-class manufacturing nation, would yet adorn the fruits of their unrivalled mechanical genius, his lordship said he had yet to be taught why the English mind is less perceptive of taste in art than the mind of the Frenchman, and the mind of the German, from whom we derive our origin. He saw no reason why the German who resided in Bavaria should have a better taste than we, who descend from those Germans who a thousand years ago migrated to this country, unless the reason be in this, that the Government of Germany—that the Governments of most of the German states—have given greater encouragement, and elicited the taste of the people, to a greater degree than has ever been done by the Government of this country.—We shall have occasion next month to enter somewhat lengthily into the system of inspection of the Provincial Schools.—We could wish that the Board of Trade would desire some decorative ceilings for the building of the Exhibition of '51 to be produced expressly.

We are glad to perceive symptoms that the principles of competition for works of art are beginning to be discussed, and if we may judge from the decisions of Manchester, in respect of the Peel statue, a much better system is likely to be adopted. According to the local *Spectator*, the committee, after much inquiry and deliberation, have selected a limited number of the most eminent sculptors to compete for the erection of the intended monument. To each of these a communication has been made by the mayor, on behalf of the committee, stating the terms on which the competition is invited. These are briefly the following:—Three thousand guineas to be given to the artist selected for the statue. The pedestal, which is to be of granite, to be erected at the expense of the committee, and under the superintendence and direction of the sculptor. Each competitor to transmit, on or before the 1st January next, a model of a statue and pedestal. The model statue to be not less than two feet, or more than two feet six inches, in height. The characteristic costume of the present age to be maintained as far as is consistent with high art; but that any accessory which cannot detract from the importance of the figure itself shall be allowed. Each model to have a motto attached, and to be accompanied with a sealed envelope, containing the name and residence of the contributing sculptor. These are to be transmitted to such member of the committee as may hereafter be appointed for the purpose. The sum of fifty guineas is to be given to each of the unsuccessful competitors.—Our readers will see that this plan to some extent accords with the suggestions we offered on the subject of competition very recently.

Legislative Recognition of the Rights of Inventors.—The Council of the Society of Arts have issued the accompanying prospectus, and we may hope that the labours of the Committee thus appointed will assist the Government in accomplishing this most necessary object:—"The following noblemen and gentlemen, members of the Society of

Arts, have consented to act as a Committee for promoting Legislative Recognition of the Rights of Inventors, by means of an easy registration of them, in accordance with the principles agreed on by the Council of the Society in 1849. These principles are:—1. That inventors, designers, &c., ought not to be subjected to any other expenses than such as may be absolutely necessary to secure to them the protection of their inventions. 2. That the difficulties and anomalies experienced in connexion with patents should be removed. 3. That the present term of copyright in design for articles of manufacture, and the protection afforded to the authors and proprietors of inventions, and of designs in arts and manufactures, are inadequate. 4. That, for carrying out these objects, the cooperation of all persons interested therein be invited. Committee:—The Marquis of Northampton, the Earl of Radnor, Sir John P. Boileau, Bart., Sir J. J. Guest, Bart., M.P., the Right Hon. T. Milner Gibson, M.P., Henry T. Hope, Esq., M.P., Samuel M. Peto, Esq., M.P., Sir James Anderson (Glasgow), George Brace, Esq., Henry Cole, Esq., Charles Dickens, Esq., R. B. Dockray, Esq, C.E., J. H. Elliott, Esq., John Farey, Esq., C.E., P. Le Neve Foster, Esq., M.A., Charles Fox, Esq., C.E., Wyndham Harding, C.E., Edward Highton, Esq., Captain Boscawen Ibbetson, K.R.E., Owen Jones, Esq., Herbert Minton, Esq. (the Potteries), R. S. Newall, Esq. (Gateshead), Richard Prosser Esq. (Birmingham), Professor Forbes Royle, W. W. Rundell, Esq. (Falmouth), J. Jobson Smith, Esq. (Sheffield), Professor Edward Solly, F.R.S., Arthur Symonds, Esq., Professor Bennet Woodcroft. The points on which the Committee wish particularly to obtain information are,—1st, the effect which the existing system of patents may have had on suppressing, and thus depriving the public of the knowledge and use of the inventions of those who are unable to bear the heavy expenses required under it; and, secondly, instances where the expenses have been fruitlessly incurred. The Committee request that any facts in any way bearing upon these points may be forwarded to them."

Art-Education for Workmen.—A correspondent, who is very zealous in education, writes:—Almost all workmen would be much benefited by some knowledge of geometry. Some time ago I gave a number of lessons on geometry to the workmen of ——, and had then some opportunity of observing what persons of that class require and can take up. They cannot follow trains of argument. What they want and like are facts. I have, therefore, begun a table of the main and most useful and easily comprehended facts in geometry, and intend to lithograph it in one large sheet, to be stuck up in factories, mechanics' institutes, and common boys' schools. Workmen are used to broad sheets, but do not readily find their way in the pages of a book. When everything is before them at once, they discover what they require at the moment, or point it out to each other, more readily in this mode than in a book—at least that is my opinion. As soon as the table is in a state to enable any one to form a notion of it, I will forward you the MS. My intention is to lithograph it myself, *i.e.* to copy it on transfer-paper. Some of my little pupils are getting on very well, though our lessons do not average more than three-quarters of an hour a-week, which is not enough. Several of them might become artists, and of about thirty there are not more than two who do not shew a taste for drawing; and those two are very young, and have been ill-managed at home. I have just returned from a few days' visit to France, and should have liked to see the Paris schools, to which strangers are not admitted. In Paris alone there are a great many schools of design, for both males and females, juvenile and adult, many of them gratuitous. Galignani, in his very excellent "Paris Guide," says that upwards of 10,000 adults receive instruction in these schools; the number of children in them he does not state. The superiority of the French workmen in all articles of taste is, therefore, easily accounted for. In all, or almost all, the lower branches of art the French appear to excel us,—not so in the highest. Whatever a Frenchman does, he tries to do in an artistic manner. He often succeeds, often fails, and often succeeds but partially—partly through his comparative poverty, partly through his turn of mind. We, I think, seek good and sound, rather than showy, work—we appear, to me, to be more congruous but less artistic. The Louvre, Luxembourg, and many other public exhibitions of painting, sculpture, ornaments, curiosities, and models and specimens of every kind, are open to all classes in Paris on Sunday, and are crowded with all classes of visitors. These are important schools of art. The numerous beautiful churches of Paris are also open all day, and as they contain numerous paintings and sculptures must have an effect on the public taste. G.

Original Papers.

IRISH FLAX MANUFACTURES.

BY J. MACADAM, JUN.

The flax-plant (*linum usitatissimum*) is not indigenous to Ireland, but was probably introduced from the East by the Phœnician merchants who visited its coasts. The climate and soil were found to be admirably adapted to it, and its culture and manufacture into clothing were among the earliest industrial occupations of the native Irish, since we learn that, on the English invasion, linen shirts or coats, dyed with saffron, were worn, and in the sumptuary laws subsequent to that period it was thought necessary to provide against the extravagant size and width of these favourite vestments. The early history of this manufacture resembles that of all others where natural products have been fashioned by the hand of man for domestic use. The weaver of the linen was in most cases the grower of the flax, and all the subsequent manipulations were performed by his household. By degrees, however, the great principle of division of labour asserted its importance, and the manufacture of the spun fibre into a woven and bleached fabric was carried on by those who found it to their advantage to devote their entire attention to this pursuit. In the reign of Charles II. the Earl of Strafford was so convinced of the importance of flax-culture and manufacture, that, at his own charge, he imported superior seed, erected looms, procured workmen from France and Flanders, and sent a ship to Spain at his own risk with the first investment of linen that had ever been exported from Ireland. This manufacture was carried on with but little general improvement in the processes, until the revocation of the edict of Nantes, by Louis XIV., drove many of the Huguenot families to seek a refuge in Ireland, and among their number several individuals who had been acquainted with the manufacture of linens in France. In the reign of William III. the British parliament, jealous of the growing importance of the Irish woollen manufacture, which was found to interfere seriously with the staple trade of England, passed several arbitrary enactments with a view to destroy the Irish trade, and, by way of compensation, at the same time resolved to encourage and develope the manufacture of linens in Ireland. A colony of some seventy persons from France and Holland, under the direction of Mr. Louis Crommelin, an experienced manufacturer, was sent to the north of Ireland, and from the date of their settlement may be reckoned the progress of the linen manufacture up to its present point of excellence. An Act was passed in the year 16[illegible], in Queen Anne's reign, for the regulation of the linen manufacture, providing for the appointment of a Board in Ireland, to be called the Trustees for the Linen and Hempen Manufactures, to encourage in every way the culture and proper manipulation of the flax-plant, and to regulate and improve its manufacture into linens. To provide funds for these purposes, the produce of certain duties was assigned, according to the custom which then obtained in the financial concerns of the state. The first meeting of these trustees was convened in Dublin on the 10th October, 1711, by the Duke of Ormond, then Lord Lieutenant. Having been duly constituted, they entered upon the discharge of their functions, and until the year 1828 this Board existed, having the entire control and direction of the culture and manufacture of flax in Ireland. The chief means which they adopted, in furtherance of the views with which they had been appointed, were,—the importation of the best Russian and Dutch flax-seed,—the distribution of the most approved implements,—the location of competent persons to superintend the management of the flax,—the supervision through inspectors and sealmasters of the different localities where the manufacture was carried on,—the inspection and branding of sowing-seed,—the distribution of bounties for the saving of flax-seed, for the hand-spinning of fine yarn, the erection of scutch-mills, the establishment of spinning-factories,—and the manufacture and exportation of certain kinds of fabrics. The funds applicable to these purposes, from 1711 to 1737, averaged

about 6000*l.* per annum, but soon rose to 20,600*l.*, and were fixed by parliament at the latter sum during a long subsequent period.

The Linen Board, through the stimulus which it gave this branch of industry, was certainly productive of much benefit to the nation, notwithstanding the abuses which the bounty system naturally produced. As regards the production of the raw material, it succeeded in greatly increasing it. In 1757 Ireland consumed all the flax she produced, and imported from foreign countries to the value of 138,144*l.* In 1783 the import had decreased to 11,982*l.*, and in 1816 it had not only ceased, but had been replaced by an export to the value of 72,500*l.*

The quantity of flax grown annually in Ireland has been subject to considerable fluctuations, arising from the price which the raw material brought in the market, the scarcity or abundance of the import of sowing-seed from abroad, the occasional failure of crops, the comparative value of other kinds of agricultural produce, and several minor causes. The following table, beginning with 1805, will give a general idea of the production:—

	Acres.		Acres.
1805	79,780	1841	83,745
1808	51,462	1842	93,435
1811	92,365	1843	112,200
1814	61,902	1844	122,688
1818	83,312	1845	90,112
1821	80,785	1846	72,120
		1847	58,312
		1848	53,863
		1849	60,073

Since the dissolution of the Linen Board no effort was made to increase and improve the culture of flax until 1841, when a society was established in Belfast under the title of the Society for the Promotion and Improvement of the Growth of Flax in Ireland, which has since been directing its efforts to all parts of the country offering a suitable field for its labours. Under royal patronage,—and numbering among its members the nobility and landed gentry on one hand, and on the other nearly all the individuals engaged in Ireland in the spinning of yarn and manufacture of linen, with a considerable proportion of the wealthy English and Scotch flax-spinners, and aided latterly by special grants from Government, on the recommendation of Lord Clarendon, who has taken a warm interest in the success of its operations, and who has in every way aided it by his influence and advice,—it has made great progress in the developement of the great national resource to which its attention has been directed. The measures taken by the Society, in pursuance of its objects, may be summed up as follows: the dissemination of printed publications containing carefully revised instructions for the growth and preparation of flax; the bringing over of Belgians skilled in the management of the crop on the most approved methods; the sending of young farmers from Ulster to Belgium and Holland to learn the mode of culture there practised, and their subsequent location throughout Ireland to give instructions; the experimenting upon and recommendation of new machines for the breaking and scutching of the fibre by power, and of other processes in the steeping of the plant and the saving of the seed; the dissemination of instructions in the mode of hand-scutching practised in Belgium, with the requisite implements; the encouragement of the erection of scutch-mills in new localities; the securing of farmers from the frauds practised in the sale of seed for sowing; and the chemical analysis of several points of importance connected with the different operations to which the plant is subjected.

Within the last few years the Society has been endeavouring, with considerable success, to extend the cultivation of flax to the southern and western provinces. At the time when the manufacture of linens was a purely domestic one, and was carried on in those districts as well as in Ulster, flax was grown in all parts of Ireland. Since the great changes in the trade, occasioned by the

employment of machinery in spinning the yarn, the growth had followed the manufacture, and had become concentrated in Ulster. The relative breadth grown in the different parts of the island, at different periods, will be best shewn by the following table:—

	1809.		1841.
	Acres.		Acres.
Ulster	62,441	Ulster	81,131
Other provinces	14,308	Other provinces	2,314
	76,749		83,745

It will thus be seen that, while in 1809 Leinster, Munster, and Connaught, furnished nearly 19 per cent of the entire quantity, in 1848 they furnished scarcely 3 per cent, which was not available for the general purposes of the trade, but was spun and woven by the growers themselves for domestic use.

Until after the extension of spinning by machinery, Ireland chiefly depended on herself for the raw material of her linen manufacture. There were occasional imports to some extent of foreign flax, when the home crop was deficient. As an article of export to Great Britain and other countries flax was scarcely recognised. The largest year's exports noted in the records of the Linen Board was 1808. Of late years Ireland has been both an exporter and an importer. When the crop is large, little foreign flax is imported; and when it is small, a large quantity. In years when the home-grown crop is unusually large, as in 1844, a considerable export to Great Britain takes place. Taking the export from Belfast as a criterion, it will be found that,—

In 1808 there were exported	6,630 cwt.
1812 " "	1,803 "
1816 " "	3,581 "
While in 1845 there were exported	62,240 "

Adding the exports from Newry and Derry, the entire amount for 1845 was about 140,000 cwt., value 310,000*l*. When, as in the case of the last two years, the Irish flax crop has been under an average, the exports are small and the imports large. Thus in 1849 there were imported into Belfast alone,—

From Russia	32,795 bales
" Holland	3,846 "
" Egypt	1,459 "
And from these countries and Belgium, &c., by cross-channel steamers	17,040 "
Making a total of ...	55,130 bales, or about 220,520 cwt.;

while the exports to Great Britain were only 22,620 cwt., or two-thirds less than in 1845.

The value of Irish flax varies according to the state of the linen trade and the supply from abroad, and there is a great range of price between the different qualities. The average value at different periods is given in the following table:—

1810	£87 per ton	1846	£60 per ton
1815	70 "	1847	46 "
1825	62 "	1848	45 "
1835	63 "	1849	50 "
1840	56 "	1850	56 "
1845	65 "		

In consequence of the general improvement in quality of Irish flax, owing to the exertions made to introduce the most approved systems of culture and

preparation, its price has not varied so much of late years in proportion to Russian, which forms the bulk of the foreign import. Thus in

1836	Russian was	....	£45	......	Irish £58	per ton
1840	"	....	40	......	" 56	"
1845	"	....	41	......	" 65	"
1846	"	....	43	......	" 60	"
1849	"	....	31	......	" 50	"
1850	"	....	35	......	" 56	"

Of late years Irish flax has occasionally brought very high prices, when carefully managed, and grown under favourable circumstances; 100*l.* to 150*l.*, and even to 180*l.*, per ton, has been paid for occasional parcels. As an instance of the importance of attending to the recent improvements in culture, it may be stated that a County Down grower recently informed the committee of the Royal Flax Society, that the average price he had obtained for his flax during five successive years, in which he had strictly followed the instructions given by the Society, was 108*l.* per ton. The instances, however, are as yet rare where these high prices are obtained. Generally speaking, the quality of Irish flax as brought into the market is intermediate between Russian and Egyptian on one hand and Dutch and Belgian on the other. It is nearly equal to the best Dutch, but seldom so good as the best qualities of Belgian. It is fortunate for the linen trade of the British islands that there has been of late no general war with continental powers. As out of the 90,000 or 100,000 tons of flax annually consumed 75,000 tons are imported, it would have a disastrous effect on the trade if the resumption of hostilities with any of the great maritime powers prevented the obtaining a free supply of flax. At the commencement of the French war, in 1793, Baltic flax sold at 30*l.* per ton. In the course of three or four years it rose to 150*l.* A stronger argument could not be needed for endeavouring to supply the demand at home. Before leaving this part of our subject, it may be observed, to shew the importance of disseminating proper information in the processes of culture, that in the districts of the south and west of Ireland, although the soil and climate are generally better adapted than in Ulster for the growth of the plant, it appears to have been unremunerative to the grower owing to the wretched system of management. In the Linen Board's Report for 1815, it is stated, that "Limerick flax is the worst in Ireland, and sells at 24*l.* to 30*l.* per ton, while Ulster brings 50*l.* to 84*l.*" Flax lately grown in Limerick, under the management of the Flax Society's instructors, has been valued in Belfast at 63*l.* per ton, being equal to the finer qualities of northern flax. And there can be no doubt that that county contains the best flax land in Ireland, on the banks of the Shannon. And again, the flax formerly grown in County Mayo, and mismanaged by the country people, brought only 28*l.* to 35*l.* per ton, while it has been latterly bringing an average of 60*l.*, and in some cases upwards of 80*l.* per ton.

Through various improvements introduced of late years, flax can be produced at less cost to the grower than formerly. The cost of scutching the fibre by hand, in 1816, is given at 3*s.* 6*d.* per stone, and by mill at 2*s.* 4*d.* This process is now performed in the northern scutch-mills at 10*d.*, and by an improved machine, just introduced, will likely to be done at 6*d.*

But the most material improvement, as influencing the cost of production, is the system of steeping in hot water, of which the late Mr. Schenck was patentee. The first advantage of this method is its certainty and uniformity, as the flax done in the establishments where this process is carried on is of a much better quality than the same article could be produced by a number of growers, of whom only a small proportion understand the proper mode of management. The second great advantage is the facility which it offers for saving the seed. It has been a serious national loss that the saving of the seed of the Irish flax-crop has been generally neglected, partly from the difficulty of inducing the farmers to believe that the fibre would not be injured, but chiefly from the unfavourable nature of our climate in autumn for drying the

seed-vessels. In 1809 parliament made the Linen Board a separate and special grant of 20,000*l.* to encourage the saving of seed; and in 1810, by giving a bounty of 5*s.* per bushel, they succeeded in getting 61,864 bushels saved in Ireland. When this stimulant was withdrawn, the practice was again abandoned, probably because the fibre sustained more injury from the weather during the process of saving than was compensated by the value of the seed. Thus the seed of the Irish flax-crop, to the value of about 250,000*l.* annually, was rotted in the steep-pools, and never made available for any useful purpose. But it has now been ascertained, that the mode of drying the flax-straw for steeping, on the patent system, effectually saves the seed, and the few steeping concerns yet in operation produced last year 6000 bushels, which were sold for sowing in the spring of the present year, bringing 3000*l.*, and helping to make up the deficiency in the import of foreign sowing-seed.

It frequently happens that the supply of Russian sowing-seed, on which Ireland chiefly depends, is scanty and of inferior quality. The price becomes so high that the poorer class of farmers are unable to purchase, and however desirous of sowing flax they are obliged to turn their land to other purposes. If all the seed of the Irish crop were saved, a large proportion would be available for sowing, and the price from year to year would thus be equalised. It would, of course, be necessary to prevent the plant from degenerating by the occasional use of foreign seed, but a small quantity would suffice for this purpose. The chief value, however, of the seed to the farmer would arise from its employment in the feeding and fattening of live stock. In England it has been found that a system of fattening, based on the use of flax-seed mixed with roots and straw, is the most profitable that has yet been employed. And further, in cases where the grower should not make use of it in this way, he can find immediate sale to the oil-crushers. To supply the demand for oil and for oil-cakes a yearly import from the Continent to Great Britain takes place, averaging 600,000 quarters of flax-seed and 90,000 tons of oil-cakes, value together upwards of 2,000,000*l.*

Were the economy of the seed the only beneficial effect to be expected from the general adoption of the patent process of steeping, the addition of 250,000*l.* annually to the produce of the Irish flax-crop would be a result sufficiently satisfactory; but the other advantages which it possesses are so important as to bid fair to insure a rapid developement of the system, and an immediate consequent extension of flax-cultivation.

Having considered the production of flax in Ireland, we now turn to the manufacture of which it is the raw material.

The most important point in connexion with the progress of this manufacture, is the great change in the spinning process.

Up to an early period in the present century all the yarns were produced by hand-spinning, which was carried on by women in their cottages throughout the country. These yarns were brought by them into the nearest town, on market days, where they were purchased by the weavers,—or, in many cases, the female members of a family spun the yarn to be woven by the men. For so long a period had this method been pursued, not only in Ireland, but in all other countries, and not merely for the spinning of flax, but of wool and cotton, that the spinning-wheel became emblematic of manufactures in general, and the term spinster remains the legal appellation of unmarried females to the present day. The use of this simple implement was, indeed, not confined to the cottage, but was extended to the households of the thrifty middle-classes, and even in some cases of the higher ranks of society.

The yarn purchased from the spinners on market and fair days was generally bought directly by the weaver, but frequently by dealers who sold it to weavers in other parts of the country, or to merchants in the ports, who shipped it to Great Britain. A large quantity of yarn was spun in Connaught, and bought up for the manufacture of coarse linens in Ulster. The chief bulk of the export of yarns to Scotland was also from that province. In the different reports of the Linen Board frequent reference is made to great complaints, preferred by both Irish and British manufacturers, of the fraudu-

lent manner in which the yarn was frequently made up, which involved them in heavy loss and inconvenience.

In 1793 the first machinery for spinning flax was erected in Great Britain, and as it was found that yarns could be thus produced more cheaply than by hand, this trade speedily extended itself. The flax was all spun dry, and the yarns produced were all of the coarser kinds. The first spinning-machinery referred to in Ireland was established at Cork in 1805, and consisted of 212 spindles for canvass yarns. The Linen Board, through a bounty of 30*s*. per spindle, succeeded in encouraging the organisation of several concerns, amounting, in 1809, to an aggregate of 6369 spindles. In 1815 there were in Ulster 5 mills, the largest having 1024 and the smallest 300 spindles. In the same year there were 2 in Leinster and 7 in Munster, only one being at full work, owing to the depression of trade immediately after the end of the war. About 1825 English and Scotch yarns began to be imported for the first time into Ireland, and completely undersold the hand-spun article. These yarns were produced on the system called wet-spinning, the flax, during the process of twisting, being passed through hot-water. By this mode it could be spun much finer than by the dry-spinning, and by degrees, aided by subsequent improvements, the quality and fineness of the yarn were so much changed, and the economy of working so much attended to, that the hand-spun yarns were completely superseded, except for the very finest cambric fabrics. One of the greatest advantages of this system was, that the tow could be spun almost as fine as flax. The first extensive factory on the wet-spinning system erected in Ireland was in 1828. About 1835 a considerable export of yarns to France began to find its way from Great Britain and Ireland. From 3 millions of kilogrammes, or about 60,000 cwt., in 1838, it increased to 10 millions kilogrammes, or about 200,000 cwt., in 1841. Of this export Ireland had a large share, equal to about 300,000*l*., and nearly one-fourth of her spinning-machinery, in the latter year, was working for France. The yarns produced in 1841 were valued at 1,700,000*l*. But the French having placed a heavy duty on our yarns in 1842, so great was the check, that in 1843 our production of yarn had fallen to 1,200,000*l*., a difference in two years of half a million sterling. In fact, the Irish flax-spinners considered this impolitic act of the French Government as a crushing blow to their trade. That these gloomy anticipations have not been realised is a most satisfactory circumstance, and shews strongly the great progress which our linen manufacture has since made. In 1841 there were 41 mills, with 260,000 spindles; this year, 1850, there are 73 mills with 339,000 spindles; and adding the new mills now being built, and the additions of machinery now making to existing concerns, there will be, by the end of this year, about 400,000 spindles in operation.

(*To be continued.*)

EXTENSION OF COPYRIGHT IN DESIGN—PROVISIONAL REGISTRATION OF DESIGN—PATENT REFORM.

MANUFACTURERS are beginning to find out some of the benefits to design which the Commons suffered to remain unmutilated in the Designs Bill of 1850. By the ninth clause of that Act, the Board of Trade was invested with powers to extend the Copyright in Ornamental Designs for any term not exceeding three years; and we understand that the silk and worsted damask manufacturers, who previously enjoyed a copyright for only one year, have now obtained an extended copyright for an additional *two* years. This is a great gain to the cause of design, by increasing its value; but if they had represented their case more effectually, there is no reason to doubt that the Board of Trade would have acceded to a three years' extension. The fanciful varieties of period in copyright—for nine months, twelve months, three years—established by the Designs Act of 1842, are altogether indefensible in principle. If the property is to be protected at all, the public, by its free usage, virtually best determines the period of its value. All ornamental designs should be entitled to one and the same period of copyright. The Legislature might as well affect

without any other teachers than the various objects which it must contain, form a school for inciting and training the power of invention—an establishment of incalculable service to all on whom it has pleased God to bestow this noble gift."

FLANNEL, PRINTED BY CHARLES SWAISLAND, FOR RICHARD ANDREWS, 5 WOOD STREET, CHEAPSIDE, LONDON.

HOWEVER true the axiom, which has necessarily obtained amongst our manufacturers, that style must be adapted to the slow growth of taste, and that *customers* must be pleased, and that too in their own way, the true effort of the producers should be to create taste, and thus to lead, gradually, to the desideratum, a true appreciation of the beautiful and becoming, among their purchasers. We have heard of a lady, and a rich one too, who, while expressing an abhorrence of gaudy colours, having probably heard that true taste was thereby shocked, yet declared, in the same breath, that the only hues she could endure were those of red and yellow! Taste was, certainly, here dormant, yet the pretender was aware of the feeling, but, for want of education, had utterly lost her way in finding the true road to it. Another object of the manufacturer should be to study the nature of the fabric with which he is dealing, and the peculiar use for which it is fitted, and to which it is to be subjected, so that propriety may reign in the result of all his efforts. Much of opportunity for the education of the public, in matters of taste, is open to the manufacturer, and a heavy onus lies upon him should he retrograde, or prove lukewarm in his duty. His interest is also in the same barque with his duty, the forward in the race have better chance of the golden prize. We hope, soon, to see the subject of patent-right so settled, that the reward shall be certain to those who labour to these ends: the subject is full of matter for deep reflection, as bearing upon an important feature in the education of the mass, the renown of our manufacturers, and the consequent well-being of the industrial portion of our community. No material receives the colours of the dyer more readily, or with more lively effect, than the fine flannel fabric, and we have before us an excellent design from Mr. Swaisland, printed upon this material, and upon the merits of which we are tempted to dwell. Of all the brilliant designs for which the printer is famed, none have more artistically carried out the intention of an harmonious arrangement of colour. The ground might have been objected to, as too brilliant, were not the eye insensibly led from, rather than towards its lively hue, by the judicious arrangement of the warm colours, closely scattered over the surface; from a deep crimson laid upon the ground, through a true red, the eye is caught by the rosy tints of the pattern, warm purples lead up to the blue, which is, with great taste, rather sparingly used, to avoid presenting the slightest startling or uneasy sensation to the eye, the warm colours are contrasted by the secondary green, which is kept of a fresh and lively colour. White flowers, variously tinted in their half-lights and of excellent design, enliven the whole. The ground is well covered, and this perhaps is one of the great secrets of the rich effect produced, as is seen in the various productions of India and Cachmere. We give a specimen also of the same pattern produced upon a black ground, which is in harmony with any colours laid upon it, or any complexion of the wearer, and one in which the greens, in the specimen before us, are rendered in varied warm browns, upon a sea-green ground, well adapted for very fair complexions: a turquoise-blue ground, with a like slight modification of the colours in the pattern, would be as much in request for the fresh English tint of complexion, as will the scarlet for a warmer tint. The pattern, of a drawing calculated to suit any height or proportion of figure, is in excellent style, and is upon a material well suited for morning dresses, or wrappers, for the coming season; the registers are perfectly kept, and the result upholds the high reputation of the printer and the credit of the manufacturer. We were not surprised to learn that it is, by many degrees, the most successful of the printed flannels of the year.

WOOD SCULPTURE.

To the investigators of the progress of the arts, as applied to articles of utility or convenience, no matter is more attractive than that of the taste and invention bestowed upon ornamental furniture, and the subject before us affords a large field for remark, as much, that might be once more utilised amongst us, is now lying almost dormant for want of the impulse towards a decorative style which our ancestors followed with such success that even the remnants of their furniture, or embellishments, in sculptured wood-work, are sought after by us with avidity and purchased at the prices of gems. That our taste has, since the days of the Stuarts, gradually declined until the opening of the second quarter of the present century, may, perhaps, be laid to the engrossing attention demanded by our polity, internal and without, during the eighteenth and part of the nineteenth centuries—times of trial, although of progress—during which little attention could be afforded to the leisure of indulging luxurious taste. The artist, the manufacturer, the craftsman, have gradually yielded to the neglect with which they have been, in this branch of art, almost universally regarded, and an art, which it requires taste and magnificence to uphold, and which has, during the period of its splendour, been supported by the designs of the first masters of art in all the countries in which it has successfully been practised, was almost extinct. A few enthusiastic spirits have, however, from time to time exerted their efforts practically to infuse a taste into our meagre style, and have at last succeeded in awakening attention to the poverty of our interiors, and a conviction that modern furniture and decoration are poor and devoid of that general taste which the character of the age demands. Carving in ivory, so much practised by Eastern nations and by the ancient and Byzantine Greeks, and introduced by the latter into Western Europe, particularly into Germany, led, doubtless, to the application to this art at an early period by the German races. Theophilus mentions the love of this art manifested by the Germans at a very early period, and he shews us that the practices necessary for the treatment of one material are equally so for the other. In cap. 92, L. 3, he describes a very beautiful ornament of carved ivory, or wood, of sculptured and open-work so as to shew, through the interstices, a gilt plate of copper placed underneath. We have sufficient knowledge of the forms of seats and other domestic articles of furniture of the ancients, from coins, seals, and pictures on walls, or in MSS., to shew us the style usually employed: it was generally simple and tasteful, yet the descriptions of the carved ivory thrones, seats, or couches, of all the Eastern nations of Europe and Asia, shew that much luxury in these articles existed. In the Saxon and the early Norman periods in this country, the walls of the chambers of the great were generally wainscoted. This was, doubtless, ornamented with some kind of carving, in connexion with other embellishments, as in anno 1233 the viscount or sheriff of Hampshire is commanded to re-embellish the walls of the wainscoted chamber in the castle of Winchester with the same pictures as those with which they had been previously painted.

There is a fine specimen of an oak coffer (engraved by Shaw) from Clemping church, Sussex, of the period of Henry III. It is carved in the early English style, and is of value as illustrating the state of the art of the period; it may be contrasted by its simplicity, with that published in the same collection from Haconby, Lincolnshire, in which the florid predominates; this latter is of the 14th century, and is a remarkably beautiful specimen of the art. Reading-desks in carved wood of the 14th and 15th centuries attest the very high degree of skill which was exerted in this country upon these and like articles of furniture; some of them are very elaborate, and are ornamented with rosettes, mouldings, Gothic, and tracery work. The cradle of Henry V., in the possession of H. Braikenridge, Esq., is an interesting specimen of the art: the upright ends, which support the cradle, are ornamented with foliage, and are surmounted by doves; this has been engraved for the first time by Shaw. The fashion of chairs or seats scarcely became generally ornamented until the eleventh century. Willemin and Strutt have given specimens of this and the

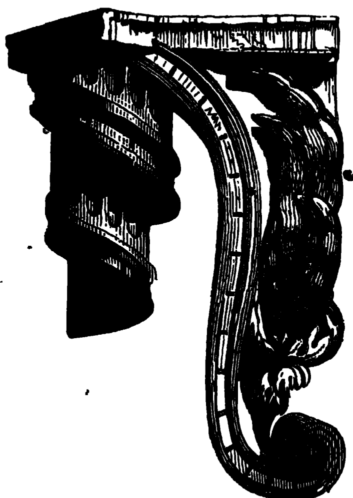
two following centuries; various MSS. of the 13th and 14th centuries also afford several beautiful examples of models of thrones and footstools; and Shaw has engraved those of the MS. of the Royal Library in the British Museum, 16 Geo. III., that at York, about the time of Richard II., and a beautiful specimen of the abbot's chair at Evesham of the 14th century, the delicate tracery surrounding which, formed of the branches of the vine and oak interspersed with figures, is the perfection of art, a magnificent specimen of an architectural chair from St. Mary's Hall, Coventry, in dark oak, and now in a high state of preservation. There is a curious representation of René d'Anjou, in a MS. of the abbey of St. Germain des Près, Paris; he is seated on a chair, or throne, of wood-work, an ornamented bookcase is before him, a clock with weights is suspended in a corner of the room, near it is a framed globular mirror,—the sofa, or couch, is of wood-work, and the ceiling, likewise of oak, is ornamented with sculpture. Numerous examples of cabinets, frames, wainscoting, tables, buffets, bedsteads, caskets, and cups, might be adverted to, but our limits oblige us to pass to a period of transition in the art, emanating from the genius of Raffaelle, who did not disdain to design for the sister art, or think he was "losing caste" by employing his pencil in applying it to the creation of the new style, "the arabesque," for the service of the wood-sculptor. From the time of Raffaelle the character of the art became changed, and, although such specimens as that at Evesham shew the breadth and freedom to which design was sometimes raised, the general pre-Raffaelle feeling was not of such free and graceful nature. The pupils of Raffaelle, as Giovanni da Udine, who chiefly assisted his master upon the arabesques in the Vatican, of Giulio Romano, Primaticcio, Pelligrino da Modena, Giulio Clovio, Penni, and others, although deprived of the inspiration of their master, yet reflected much of his genius, and many designs have issued from their pencils. B. von Orlay, of Brussels, and Michael Coxis, carried his feeling into Germany, and Pedro Campana introduced it into Spain. His own works, however, afforded innumerable designs for the wood-sculptor. We give a very fine specimen of Italian carving of this period, when the wood-sculptor was associated with the architect in internal decoration; they mutually relied one on the other: the sculptor was called in not only to enrich the chapiters and friezes, or the more humble moulding of the apartments, but he was the artist employed to work the panelling into pictures. In Italy, and also in Flanders, chairs, tables, coffers, and bedsteads, presented works of high art. The Emperor Charles V. sent designs or models out to Batavia, which were copied by the Blacks; much use was made of this low relief style in internal decoration. We have caused an engraving to be made from a specimen of this Batavian carving, now rare. In this country the reigns of Henry VIII. and of Elizabeth, and of James, shewed specimens of great skill. The bedstead of the former period, of the school of Holbein (Shaw, p. 36); a tall chair, the back supported by Holbeinesque pillars supporting eagles and frieze of Lombard monsters, the back itself carved into a representation of angels upholding a shield, on which are the lilies of France surmounted by a crown (also given by Shaw), are fine specimens. An engraving from a bracket belonging to a chimney-piece at Burleigh, designed by Holbein, affords an insight into the style of wood-sculpture of the period. The looking-glass of Elizabeth's reign at Goodrich court, engraved by Shaw; the fine sideboard of Italian taste of arabesque and the grotesque, in possession of D. Hodgson, Esq., of Liverpool; the numerous cabinets of this and the succeeding reign, many of which are now amongst us, shew considerable taste. The wood-carving in this country from the time of Charles I. to Anne reached a high standard, it was also much employed for buhl, and connected with ormolu-work for tables and smaller furniture. The florid style of Rubens afforded the models for the period, and a true English style of art, grafted upon this, subsequently arose.

After a period of repose, during which little was attempted in architectural or ornamental decoration to call for the exertion of the abilities of the artist in this branch of design, the architect and wood-sculptor once more were associated, and Wren (who possessed the eye of the artist with the knowledge of

"Drop" by Gibbons.



"Bracket" by Holbein.



the architect) and Gibbons worked together. Pre-eminent skill and taste were displayed in these more modern specimens of the art. The dining-room was enriched with representations of the spoil and weapons of the chase, fruit, flowers, game, and fish, hung in rich arrangement and profusion on the walls; over the doors were splendid trophies of the seasons or the elements, the inter-panelling, borders of glasses, or the frames of pictures, were in perfect keeping with the rest, taken from the designs or pictures of Snyders or Rubens. In the decoration of the library Gibbons was equally happy in his choice of subjects; portraits of great men, clusters of gems, medals, and coins, trophies of music, musical instruments, and implements of art, here found place. Gibbons had a most masterly manner of grouping and pressing into his service objects no other person would have dared to venture upon; he was the founder of a new school, and he had studied only in that of nature; lace, nets, strings of pearl, shells, weeds, ferns, and flowers, streaming amidst fish, birds, sceptre, coronet, and sword, require, for a proper arrangement, no slight knowledge of and power to produce effect. His correctness in delineation was such that when tested by com-

parison with nature, the feathers of a plover were found perfect, even to the number Gibbons had a peculiar manner of drawing and composing

BATAVIAN CARVING



'RAFFAELLE' PANEL

T BOLTON

his subjects in his trophies and most of his drops; he appears to have made a rough draft of some general idea in outline only, then carefully to have drawn one side of his subject within this limit, to have then turned the paper over, and, tracing the outline, filled it up in keeping with the other side. This is so perfectly visible in some of his compositions, that the same block of wood would work either side. This remark will apply to most of the drops in wood or stone at St. Paul's, Hampton Court, Windsor, and the Board Room at the New River Head, an open flower on the one side has the half closed, or back flower, on the other. Gibbons worked from a very limited variety of flowers, and these were of a nature to be easily and boldly worked. The greatest quantity of Gibbons' carving in London is at St. Paul's,—all the flower-work of the choir, screen, and organ, is his, as also the greater portion of the stone ornament within and without; the four grand ovals in the stone-work under the dome, and the two entablatures over the north and south doors, are wonderfully worked. It is known that many Flemish carvers were employed on the work, and their style of carving is very apparent, particularly over the window of the south and east outside work; the flowers are more various, but the effect is bad; they are worked to a nearer sight, but in their place, at the required distance, they form a heavy and confused mass,—with Gibbons, on the contrary, the character of the relief was perfectly studied and carried out. The altar of St. James's church, Piccadilly, is enriched by him, but an attempted reparation has destroyed much of its original character, for some Goth has caused it to be *painted.*

(*To be continued.*)

EXHIBITION OF 1851: MONTHLY REPORT OF PROGRESS.

THAT most difficult question, the allotment of space, seems to have been satisfactorily solved by the Commissioners. At the latest moment the demands for space poured in far beyond the space that could be given. By the erection of a second gallery, which gave about 40,000 superficial feet as exhibiting area, the Commissioners were enabled to allot as much as 210,000 superficial feet to the Exhibitors of the United Kingdom.

After three weeks' incessant employment of some fifteen clerks, the Executive Committee have ascertained the number of Exhibitors and their demands for space. The total number of Exhibitors is just 8200, much more than we anticipated, and almost *double* the number of Exhibitors in the last French Exposition. The space they demand is about 417,000 superficial feet of floor or counter space. The demand exceeds the available space in the building by about 207,000 feet, so that if every Exhibitor had equal claims to equal space, his average would be just 25 feet. These facts must reconcile Exhibitors to submitting to a great reduction of their claims. We believe the Commissioners have caused the claims to be digested into four sections, so that the average space will be different in each. It is in Machinery that the average is the highest, and in Manufactures that the number of Exhibitors is greatest. We are happy to hear that there is abundant wall or hanging space. Only 200,000 feet of wall space have been demanded, and there is at least 400,000 feet available.

The Commissioners expressed their desire that each Local Committee, in allotting space to the individual Exhibitors, should, as far as possible, maintain the proportions of the Four Sections allotted to it, so that in the ultimate arrangements of the whole, the proportionate space which each section may occupy, should agree as closely as may be with the spaces fixed by the Commissioners. They proceed to say,—

"As in many cases the amount of space allotted to a Local Committee has been inevitably reduced, and as it is essential in *every* case, that only those articles which do honour to our industrial skill as a nation should be admitted, it becomes indis-

pensable that some selection should be made, and it is most necessary that this should be done in such a manner as to represent the industry of the district with perfect fairness, and do the fullest credit to its industrial position.

"The Local Committees will perceive that it would be quite impossible on the part of the Commissioners to send a sufficient number of persons possessed of technical knowledge to decide on the merits of the varied articles of the manufacturing districts. The Commissioners, therefore, rely on the Local Committees for the proper distribution of the aggregate space allotted to them. . . . .

"In the hands of the Local Committees, therefore, the Commissioners leave with perfect confidence the credit of their respective districts.

"The Commissioners have caused copies of each application for space to be prepared, which are herewith transmitted to the respective Local Committees for revision and correction where necessary. The Local Committees will proceed to give the assurances of space, and to examine the applications with great deliberation. Should the Local Committees feel authorised in allocating space to articles, which either are not yet completed, or which they have not personally examined, they will do so only with a full confidence on the character and manufacturing skill of the intending producer, and with the entire conviction that the article when finished will be peculiarly worthy of exhibition. The Commissioners rely that all inquiries will have been duly made, and have fully satisfied the Local Committees when they give their vouchers for the admission of the articles; these vouchers will be considered as tantamount to *their unqualified approbation of the articles*, and will entitle them to admission to the building. . . . .

"The Local Committees have full power, *without any further application to the Commissioners*, to apportion any part of the space to other Exhibitors than those who may have sent in demands before the 31st of October.

"In order to provide for the proper reception of articles in the building as soon as they shall arrive, it is obviously necessary that the places for large groups of articles shall be fixed before any are admitted, and so far as is consistent with this necessity, it has been the desire of the Commissioners to give the utmost latitude of time to enable the Local Committees to make due inquiries into the fitness of articles for Exhibition; and the Commissioners have therefore appointed so late a day as the 10th December, as the LAST on which vouchers can possibly be received; so that there will be an interval of some time during which it will be in the power of the Local Committees, to which space is allotted, to consider the best distribution of it in every way. At the same time, as soon as a Local Committee has positively filled up or cancelled any voucher, the Commissioners request THAT IT MAY BE IMMEDIATELY RETURNED TO THEM, AND NOT DELAYED UNTIL 10TH DECEMBER.

"The Commissioners do not propose in any case to inquire into any differences of opinion, should any arise, respecting the *amount* of space which the Local Committees may allot to individual Exhibitors; and the Commissioners only propose to exercise the powers of rejection and selection, which they have reserved to themselves, to the extent of seeing that no improper articles have been inadvertently passed by any Local Committee. At the same time, if any productions shall have been rejected by any Local Committee, and the proprietor of them shall desire to appeal against the decision, it will be competent to him to address the Commissioners through the Local Committee, who will forward the appeal, with their own observations, to the Commissioners; and the Commissioners, upon consideration of the circumstances, will then decide whether the rejected articles may be examined under appeal, at the expense of the appellant.

"With the view of providing against the exhibition of duplicate articles of manufacture, the Commissioners in cases where duplicates may have been admitted by *different* Local Committees, will call upon the Exhibitors of such duplicates to produce a certificate from the actual makers, stating which of the Exhibitors has arranged with the maker to be proprietor of the absolute and exclusive right of sale and distribution of such article, and the preference of admission will be given to that Exhibitor who is the sole proprietor. Perhaps the Local Committees may think it advisable to adopt a similar regulation. The Local Committees will doubtless be sensible of the importance of taking care not to admit either unnecessary duplicates of any machine or article, or machines or articles having only very unimportant differences, especially when such articles are large."

These decisions were accompanied by a letter from the Executive Committee, allotting the space due to each Local Committee. It was explained, that the spaces were *independent* of any space for passages, &c., which was not to be reckoned by the Local Committee in its apportionments.

The Executive Committee intimated their willingness to entertain applications for a further allotment of Hanging Space, if it should be required:—

"The size of the building, large as it is, will not accommodate all the demands for Floor or Counter Space; but as there is a considerable amount of hanging or wall space available, it would be desirable that Exhibitors should be induced to exhibit articles on wall or hanging space as far as practicable, and in those cases of the exhibition of *meritorious* articles, where it may be imperative to reduce the allotment of space required by an Exhibitor, it should be an object, if possible, to substitute for such reduction of floor or counter space an allotment of wall or hanging space."

The Commissioners have adopted, in respect of the metropolis, the same rule which they have applied to all other Local Committees of the United Kingdom, and divided into four parts the total amount of space allotted to the metropolis, assigning definite quantities to each of the four sections, viz., RAW MATERIALS AND PRODUCE, MACHINERY, MANUFACTURES, and FINE ARTS. The following are the Committees which the Commissioners thought it desirable should be grouped together for this purpose:—

City of London,
City of Westminster,
Brentford,
Chelsea,
Chiswick,
Finsbury,
Greenwich,
Hammersmith,
Hampstead,
Kensington,
Marylebone,
Poplar,
Putney,
Richmond (Surrey),
South London,
Southwark,
Tower Hamlets,
Woolwich.

It is proposed that about thirty Committees shall be formed of the Local Commissioners for the whole of these districts, who shall manage the allotment of space and the rejection and selection of articles:—

"It has been considered that about twenty, or perhaps even thirty, of these Special Committees, might be required. It would be obviously necessary to devise some plan by which uniformity of action, a guarantee for impartiality, and a means of reference against a disputed decision, might be secured. The plan suggested to the Committees is the following one:—Each of the Special Committees is to elect a Chairman to preside over its deliberations. The Chairmen of the Special Committees are to be united into a general Council, or general Committee of Selection. This general body, consisting of the Chairmen of the Special Committees, would not of itself make the examinations or awards; its office would be limited to the reception of the reports of the Special Committees, to the securing of a strict impartiality, and as a means of reference to disputed decisions.

"In constructing these Special Committees, it would, perhaps, not be requisite to exclude Exhibitors, but it would be made a strict injunction to them, that no person should sit in judgment upon the same articles which he intends to exhibit."

The Committees, we believe, will be divided as follows, and it is likely that the same divisions will govern in a great measure the arrangement of the products of the United Kingdom, and probably the classes of juries:—

RAW MATERIALS:—

1. Metallurgy and Mineral products.
2. Chemical and Pharmaceutical processes and products generally.
3. Vegetable and Animal Substances used in food, manufactures, implements, or for ornament.

MACHINERY:—

4. Machines for direct use.
5. Manufacturing Machines and Tools.
6. Mechanical, Civil Engineering, Architectural and Building Contrivances.

MACHINERY (*continued*):—

7. Military and Naval Engineering, Structure, &c., Armour, and Accoutrements.
8. Agricultural and Horticultural Machines and Implements.
9. Musical and Acoustical Instruments.
10. Philosophical Instruments and miscellaneous Contrivances, including processes depending upon their use.

MANUFACTURES:—

11. Cotton.

MANUFACTURES (*continued*):—
12. Woollen and Worsted.
13. Silk and Velvet.
14. Linen.
15. Mixed Fabrics.
16. Leather, including Saddlery and Harness, Skins, Fur, and Hair.
17. Paper, Printing, and Bookbinding.
18. Printing and Dyeing of woven, spun, felted, and laid Fabrics.
19. Tapestry, including Carpets and Floor-Cloths, Lace and Embroidery, Fancy and Industrial Works.
20. Articles of Clothing for immediate, personal, or domestic use.
21. Carriages, with their appurtenances.
22. Cutlery, Edge Tools, and Surgical Instruments.
23. Wrought and Hammered Iron, Cast Iron and Iron Castings.
24. General Hardware.

MANUFACTURES (*continued*):—
25. Working in precious Metals, Jewellery, and all articles of luxury not included in the other juries.
26. Glass.
27. Ceramic Manufacture, China, Porcelain, Earthenware, &c.
28. Decoration Furniture and Upholstery, including Paper-Hangings and Papier Mâché.
29. Manufactures in Mineral Substances, used for building or decorations, as in Marble, Slate, Porphyries, Cements, Artificial Stones, &c.

SCULPTURE:—
30. Models and Plastic Art.
31. Miscellaneous Manufactures, including Manufactures from Animal and Vegetable Substances, not being woven, felted, or laid, and Small Wares.

The contractors are in full hopes that the building will be completed in time. Indeed, so confident are they, that we understand they have assented to a suggestion made by the Council of the Society of Arts, that a meeting of the Society should be held in the building on the day before it is to be handed over to the Commissioners. Considering the assistance which the Society gave in the origination of the Exhibition, Messrs. Fox, Henderson, and Co., have performed a graceful act of courtesy. We hear that the meeting will be held on the 31st December, and will be open to all members of the Society, and that the Council will also have the privilege of inviting some additional visitors. A paper on the scientific means and processes employed by Messrs. Fox, Henderson, and Co., in constructing the building, will be read on the occasion by Professor Cowper, in the centre of some portion of the great space which may be best calculated to illustrate the discourse. The time of this very interesting meeting will be about noon. The works have been visited by Prince Albert, the Duke of Wellington, and many other notabilities. The Duke was heard to say, "This is a very fine work, upon my word. It will do credit to the country."

The conditions for the sale of refreshments are published. They are to be of a light and moderate character. Ices and pastry for the rich; bread, cheese, and butter, for the poor. Clear water to be supplied *gratis* to all visitors. No beer, wine, or spirits, are to be sold, but unfermented drinks and tea and coffee will be furnished. The right of sale is to be let to the highest satisfactory bidder.

The railways have announced the facilities they are disposed to offer. Goods will be conveyed at half-charges to exhibitors. No fares by excursion trains will exceed a single railway fare for both journeys. Abatements are to be made for excesses above 100 miles. For instance, 500 miles will be charged only as 360. There will not be excursion trains till the 1st July.

Notes of preparation of lodgings for visitors are being sounded on all sides, and we hear of an admirable proposal to lodge 1000 artizans near Vauxhall Bridge, made by Mr. Harrisson, which we hope to learn has been supported by the Local Committees in the country.

The great meeting of Mayors at York, on the 25th October, in return for the Lord Mayor of London's banquet, passed over with great success; and, as at the meeting after the London banquet, much business was done in promoting the Exhibition.

STATUETTES: "Sabrina," in Statuary Porcelain, manufactured by Copelands; "Miranda," manufactured by Mintons.

As specimens of art-manufacture these statuettes are very successful, for that most obvious reason, which artists and designers should always bear in mind, that the material in which the work has to be executed has been duly considered. We have little doubt that in both these cases the manufacturers have a low average loss in the "firing," because the parts are well massed and supported together, and not likely to sink in the oven. Mr. Marshall's "Sabrina" is already well known to the public; but Mr. Bell's "Miranda" is a novelty, and we should say it is the best work he has produced since his famed "Dorothea," which maintains almost as great a popularity as when it first appeared. We recognised gladly the hand and work of the master artist about the "Miranda,"



(Sabrina, manufactured by Copelands.)

which we have too often missed with regret in Mr. Bell's late works. In both these works we see evidences of advanced workmanship on the part of the modellers of the factories; and this, indeed, is to be expected from the immensely increased practice which the figure-makers in the Potteries must have had. The action of a continued demand on behalf of the public for these statuettes, and of the instruction which we hope is now obtained from the Potteries School of Design, should produce workmen able to complete figures with the knowledge and feeling which are common to the better works produced by the French in *biscuit*. At the same time, as this kind of manu-

facture is spreading to inferior factories, the public will still have abundant inferiority supplied to them; and they must be taught to feel that this infe-



(Miranda, manufactured by Mintons.)

riority in art, as well as in price, cannot be fairly measured by the higher-priced and better works which proceed from the factories of Messrs. Copeland and Minton.

CALICO, PRINTED BY GROS ODIER AND CO.; AT STRATTON, FAULDING, AND CO.'S, 13 COVENTRY STREET, PICCADILLY, LONDON.

THAT mode of treating surfaces by which broken colour is distributed pretty equally over them, to which end the forms and irregular growth of foliage and flowers are made subservient, we have continually advocated as one of the most pleasant modes of ornamenting garment fabrics: it is generally rich and harmonious, and, as it is opposed to harsh contrasts, seldom violates

good taste, although it is liable sometimes to the charge of insipidity. The Swiss cambric inserted well illustrates these opinions. We presume the dark chocolate line has been introduced to prevent the tendency we have adverted



to; it is, however, too strong, and in avoiding one error the designer has nearly fallen into its opposite. On the whole, however, it makes an agreeable print, and certainly is very successful as a *stripe*, appearing to much greater advantage in the "piece" than in the present moderate-sized specimen.

Books.

On the Construction of Locks and Keys. By John Chubb, Assoc. Inst. C.E.

In a previous number (vol. i., p. 138), we had occasion to remark upon the ingenious exertions of Mr. Chubb, the taste which he displays in the ornamental branches of his manufactures, and the excellence of material and skill for which the productions of his establishment are famed. The treatise before us is not uninteresting, being an account of the antiquity of these means of security, and of the ingenuity displayed in the improvement of their construction. The most ancient lock known, according to Mr. Chubb, is that which has been in use in Egypt for above four thousand years; and he remarks that the locks which have been in use in the Faroe Islands, probably for centuries, are found to be identical in their construction with the ancient Egyptian locks, so much so as to be scarcely distinguishable from them. This ancient lock was a peg-lock, of which an engraving is given. We have seen the same description of wooden lock in ancient houses in Provence.

The letter-lock, still much in use as a security for portmanteaus on the Continent (first mentioned, by the way, by Cardanus, the Venetian, at the commencement of the 16th century, and who exemplifies the action by the word *serpens*), is next alluded to, as also the representations of warded keys, in early MSS., to shew their early origin; the warded lock, according to Mr. Chubb, has undergone no improvement, but, on the contrary, those now manufactured cannot now, in many instances, be compared with those of the mediæval ages. Through the tumbler-locks we are introduced to those of Messrs. Barron, a double-tumbler and ward-lock,—that of Bramah, a spring and notched-bar lock, to his own. "Chubb's lock" consists of six separate and distinct double-acting tumblers, with the addition of a "detector," by which any attempt to pick, or open the lock by a false key, is immediately notified on the next application of its own key. The detector is one great and peculiar feature by which "Chubb's lock" is known, and is no slight recommendation to it. Mr. Chubb asserts, that its qualifications also are simplicity of action, great security, and that no lock of his own manufacture, made upon this principle, has ever been picked, some which were opened in the United States of America being falsely asserted of his make.

THE ST. HELEN'S CROWN-GLASS COMPANY'S TRADE BOOK OF PATTERNS FOR ORNAMENTAL WINDOW GLASS, WITH DESIGNS FOR CHURCH, HALL, STAIRCASE, AND MEMORIAL WINDOWS. By Frank Howard.

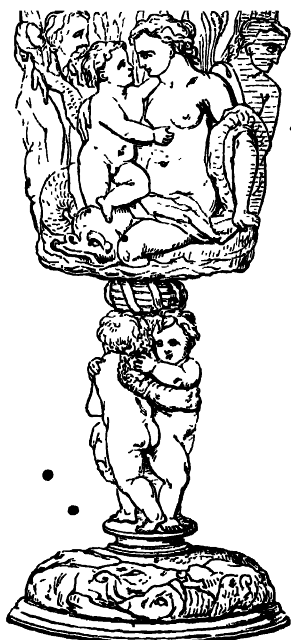
THIS book, issued by a manufacturing company to their purchasers as a trade-book, is evidence of the greatly increasing demand for the employment of ornamental glass. The volume is in quarto, well printed, and accompanied by a variety of designs for ornaments in frosted, stained, enamelled, diaper, etched, and painted work, an explanation of all these different terms is given, with directions for the forwarding commissions by purchasers. Purchasers are not to be confined to the patterns collected in this book, nor to the designs for memorial and other windows which follow them, which it would be therefore needless to criticise, artistically considered, the effects produced by light transmitted through variously-coloured masses of glass requiring peculiar treatment, which their artist should study.

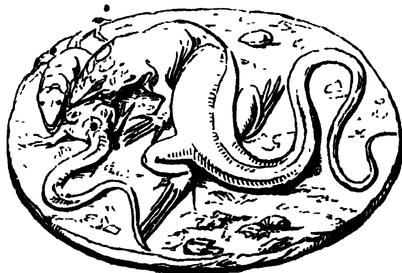
List of New Manufactures.

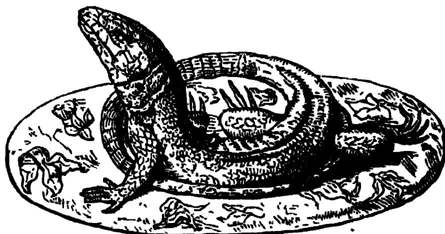
Useful and Ornamental.

[ON the same principle as the Literary Journals give a list of new publications issued weekly, so we propose to afford to manufacturers, &c., the opportunity of announcing the novelties they bring forward, accompanied with such brief remarks as will be strictly explanatory ; that the statements under these circumstances, our readers will have the goodness to bear in mind, are made on the responsibility of the producers.]

Fictile Ivory







Manufactured by Elkington, Mason, and Co.

Electrotype, manufactured by Elkington, Mason, and Co.









Black Marble Vase, manufactured by Hall, of Derby

Enamelled Water Jug.

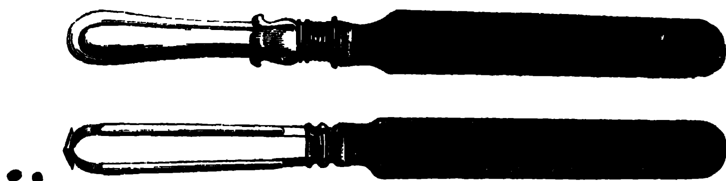


(At Tennant's, Strand.)



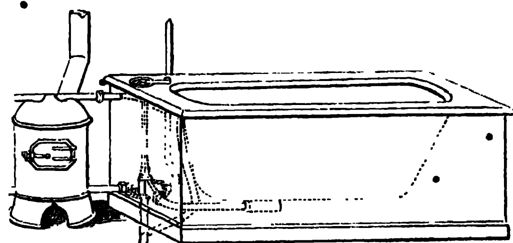
(At Cundall's, 21 Old Bond Street.)

Patent Secure Ivory-handled Table Cutlery.



Messrs. Burdekins and Greening by this invention propose a means by which the annoyance of the separation of the handle from the blade of table-knives is evaded. By the old mode of inserting the blade into the handle, a composition was used which was liable to melt, either by the action of hot-water, or a proximity to heat, and thus the junction became loosened. The remedy invented by the patentees is to bore through the handle intended to be used, and by lengthening the fang of the blade nearly to the end of it, so as to allow it to be secured by means of a nut and screw, as shewn in the engraving, the blade or fork is so held as to render it impossible to become disjoined by heat or violence. Knives are ordinarily balanced by boring a hole in the handle,—for the reception of lead, the ivory or other material is thus weakened, and, after some use, generally rendered unsightly; the increased length of fang supplies this requirement, without the aid of leading.

Warm Bath Apparatus, manufactured by Tylor and Son, London.



A warm bath by means of circulation may be obtained in about half an hour. The apparatus is portable, and can be used in any room where there is a flue.

(At Deane, Dray, and Deane's, King William Street.)

Note.—Manufacturers are requested to forward illustrative woodcuts for this list as early in the month as possible. Those who may not have woodcuts ready, and desire them to be prepared expressly, may be recommended to apply to Mr. Bolton, 331 Strand.

Institutions.

SOCIETY OF ARTS.

THE Exhibition of Patented and Registered Articles opened on the 20th ult., being the first of a new Series of Exhibitions. The intention of the Council in opening this Exhibition is to afford the members of the Society and the public an opportunity of reviewing annually the inventive developement of the preceding year. The Exhibition is necessarily of an extremely miscellaneous character, and many of the articles very trivial; but if the idea is properly carried out, future Exhibitions will probably grow in extent and importance, and afford a ready reference for manufacturers and the public to the inventions of the time. A catalogue of the Exhibition has been prepared, and contains a short statement of the object of each particular article, and thus affords a key to the study of the article itself.

Among those exhibited more particularly connected with design and manufacture we may notice the following:—

A Reader for Jacquard Looms, by Duncan Mackenzie. This is an arrangement for enabling one man to read the pattern and set the punches, so as to cut the cards for the Jacquard Loom. It consists of a series of keys similar to those

of a piano, each being attached to a weighted lever; upon the keys being depressed, the levers rise and drive forward rods carrying with them punches, which are inserted into a perforated steel-plate: the remainder of the operation is performed as hitherto. A Self-recording Rove Reel by J. Elce and Co.: a machine which enables the workman, without calculation or the use of tables of any kind, to ascertain the number of counts or hanks of any roving of yarn. An improved Bobbin for Cotton Spinning, by Robert Sutcliffe, which is capable of making 7000 revolutions per minute.

Of manufactured articles there are specimens of Cloth by Edward Heycock, of the firm of Gibson, Ord, and Co.; the gloss on this cloth is stated to be fixed without the crease inseparable from the French mode, or the tendency to pucker consequent on the stretching in the Belgian method, or the injury done to the fabric in the English process of roll-boiling. Powell's Bisunique Cloth, the peculiarity of which consists in its having two faces. Dunnington's Patent Fabrics, which have a close even face for outside wear while the long nap of the under surface answers the purpose of a lining, giving warmth and softness to the article: these have been applied extensively in the manufacture of gloves. Specimens of Dahlia Colour, by Messrs. Liddiard, a colour which hitherto had only been produced in wools and silk, but which Messrs. Liddiard had now for the first time successfully applied to cotton. Specimens of Cork united mechanically to different Fabrics and Substances, by T. H. Clarkson. An earthenware Bath by Messrs. Rufford and Finch; this is a full-sized bath made of one solid piece of earthenware; it is cleanly, durable, and cheap: it has, we understand, been extensively adopted at the Marylebone Baths and Washhouses.

Papier Mâché Bowls and Foot Pans, by W. Brindley, an ingenious application of a very cheap and durable material. Specimens of Texuralised Glass, by G. Shove: these consist of double plates of glass, with lace or some other ornamental fabric, in combination with wreaths of flowers, &c., painted on the inner surface of one of the plates. Coloured, plain, and ornamental Glass Letters for Shop-fronts, by Costin and Co., intended to supersede the brass letters now so much in demand. There are some specimens of Steel by Heath's patent process of cementation, &c. An ingenious application of the Pierced Cards of the Jacquard loom to the production, mechanically, of any of the most finished pieces of music, hitherto only to be produced by the finger organ: this is the invention of C. Dawson. Besides others, which our space will not admit of enumerating, the Exhibition contains many very beautiful working models and drawings of improvements in Steam Engines and Machinery generally. There are also Musical Instruments, Gas Meters, Water Meters, Gas Burners, Lamps, &c.: the whole have been so arranged as to be capable of being exhibited at work; and although the Exhibition is not so extensive as it admits of being made, still those who are desirous of gaining information will be fully repaid by a visit.

Nov. 13.—The Society of Arts held their first ordinary meeting for the season, Lord Overstone in the chair. The principal business of the evening was the reading of a paper by Mr. Paxton, on the Origin and Details of Construction of the Building for the Exhibition of 1851. Mr. Paxton said:—" The great Industrial building now in the course of erection, and which forms the subject of the present paper, was not the production of a momentary consideration of the subject. Its peculiar construction, in cast-iron and glass, together with the manner of forming the vast roof, is the result of much experience in the erection of buildings of a similar kind, although on a smaller scale, which has gradually developed itself through a series of years. In 1828, when I first turned my attention to the building and improvement of glass structures, the various forcing-houses at Chatsworth, as at other places, were formed of coarse thick glass and heavy woodwork, which rendered the roofs dark and gloomy, and, on this account, very ill suited for the purposes they were intended to answer. In 1833, I contemplated building a new range of hothouses; and being desirous of knowing how much they would cost if erected of metal, a plan of the range was prepared and sent to Birmingham, and another to Sheffield, with a desire to be furnished with estimates for that purpose. The estimate from Birmingham was 1800*l.*, and the other, from Sheffield, was 1850*l.* These appeared to me such enormous sums, that I at once set about calculating how much the range would cost if built of wood under my own inspection; and the result was, that I was able to complete the whole range, including masonry (which was omitted in the metal estimates), for less than 500*l.* Besides the extra cost of metallic roofs, we must add the extreme heat of such houses in hot weather and their coldness in times of frost; the liability to breakage of glass from expansion and contraction of the

metal; the very limited duration of the smaller portions, as sashbars, from corrosion, by exposure to the alternations of heat, cold, and moisture, inseparable from gardening operations, and which could only be prevented by making use of the expensive material, copper; and the difficulty, when compared with wood, of repairing any damages, as a wooden roof could at any time be set to rights by a common carpenter. These different items formed in my mind so many objections to its use, and the same disadvantages soon became generally apparent. In the construction of glass houses requiring much light there always appeared to me one important objection, which no person seemed to have taken up or obviated. It was this:—In plain lean-to or shed roofs, the morning and evening sun, which is on many accounts of the greatest importance to forcing fruits, presented its direct rays at a low angle, and consequently very obliquely to the glass. At those periods most of the rays of light and heat were obstructed by the position of the glass and heavy rafters, so that a considerable portion of time was lost, both morning and evening. It consequently became evident that a system by which the glass would be more at right angles to the morning and evening rays of the sun, would obviate the difficulty and remove the obstruction to rays of light entering the house at an early and late hour of the day. This led me to the adoption of the ridge-and-furrow principle for glass roofs, which places the glass in such a position that the rays of light in the mornings and evenings enter the house without obstruction, and present themselves more perpendicularly to the glass at those times when they are the least powerful; whereas, at midday, when they are most powerful, they present themselves more obliquely to the glass. I constructed a pine-house in 1833, as an experiment, which still exists unimpaired, and has been found fully to answer the purpose. Having in contemplation the erection of the great conservatory at Chatsworth in its present form, it was determined, in 1836, to erect a new curvilinear hothouse, 60 feet in length and 26 feet in width, with the elliptical roof on the ridge-and-furrow principle, to be constructed entirely of wood, for the purpose of exhibiting how roofs of this kind could be supported. This house was subsequently fitted up for the Victoria Regia, and it was here I invented a water-wheel to give motion to the water in which the plant grew; and here this singular, beautiful aquatic flowered, for the first time in this country, on November 9, 1849. (Mr. Paxton here exhibited one of the large umbrella-shaped leaves of the Victoria Regia lily, which excited much interest, and continued:—) You will perceive that Nature was the engineer in this case. If you examine this, and compare it with the drawings and models, you will perceive that nature has provided it with longitudinal and transverse girders and supporters, on the same principle that I, borrowing from it, have adopted in this building. In 1837 the foundations of the great conservatory were commenced. I heard that Messrs. Chance and Co., of Birmingham, had just introduced from the Continent the manufacture of sheet-glass. Accordingly, I went to see them make this new article, and found they were able to manufacture it three feet in length. I was advised to use this glass in two lengths with one overlap; but to this I could not assent, as I observed that since they had so far advanced as to be able to produce sheets three feet in length, I saw no reason why they could not accomplish another foot; and if this could not be done, I would decline giving the order, as at that time sheet-glass was altogether an experiment for horticultural purposes. Those gentlemen, however, shortly afterwards informed me that they had one person who could make it the desired length; and, if I would give the order, they would furnish me with all that I required. It may just be remarked here, that the glass for the Exhibition building is 49 inches long,—a size which no country except England is able to furnish in any large quantity, even at the present day. In 1840 the Chatsworth conservatory was completed and planted. The whole length of this building is 277 feet, its breadth 123 feet over the walls, and the height, from the floor to the highest part, 67 feet. My reasons for offering a design for the great Industrial building were these:—When plans for the structure were sent in by various persons who answered the invitation of the Royal Commissioners, many forcible and cogent reasons were urged and published in the daily papers against the propriety of erecting a large building of bricks and mortar in Hyde Park. It was not until this period that I turned my attention to the matter, when I was at once convinced that the least objectionable structure to occupy a public park would be an erection of cast-iron and glass; whilst, at the same time, a building of this description would be in every point of view the best adapted for the purposes of the Exhibition. The time for receiving designs had expired; but, from having the whole matter already digested, and the system

of ridge-and-furrow flat roofs so fully impressed on my mind, it only required the adaptation of the principle on a large scale to suit the vast building for the Exhibition. My plans were got up in about ten days, when I had the satisfaction of their being ultimately approved of by the Commissioners. When I first brought up my plans I submitted them to the Building Committee, and then to the Royal Commissioners. Mr. Scott Russell, who is now present, shewed them to the late lamented Sir R. Peel. I am very happy to have the opportunity of saying that that great statesman approved very much of the general features of the building. He regretted that it was so late in being brought forward; but of the breadth of effect and simplicity of design he entirely approved. The design for the building involved various considerations, and, therefore, it was planned, first, with particular consideration as to its fitness for the object in view—namely, the Exhibition of 1851; secondly, its suitableness for the site proposed to be occupied by the structure; and, lastly, with a view to its permanence as a winter garden, or vast horticultural structure, or a building which might, if required, be again used at any future period for a similar exhibition to that of 1851. One great feature in the present building is, that not a vestige of either stone, brick, or mortar, is necessary to be used, but the whole is composed of dry material, ready at once for the introduction of articles for the exhibition. By no other combination of materials but iron, and wood, and glass, could this important point be effected; and when we consider the limited period allowed for the erection of so stupendous a structure, the attainment of this all-important point has secured what may almost be deemed the most important consideration. The absence of mortar, plaster, or any moist material in the construction, together with the provision made for the vapours which will necessarily arise and are condensed against the glass, enables the exhibitor at once to place his manufactures in their respective situations without the probability of articles, even of polished ware, being tarnished by their exposure. It may be important here to state, that it is unnecessary to cut down any of the large timber trees, provision being made, by means of a curvilinear roof over the transept of the building for them to stand beneath the glass, and by a proper diffusion of air, they will not suffer by the enclosure. The height of the centre aisle is 64 feet, the side aisles 44 feet, and the outside aisles, or first story, 24 feet. The transept is 108 feet in height, and has been covered with a semicircular roof, like that of the great conservatory at Chatsworth, in order to preserve the large elm-trees opposite to Prince's gate. The whole number of cast-iron columns is 3300, varying from 14 feet 6 inches to 20 feet in length. There are 2224 cast and wrought-iron girders, with 1128 intermediate bearers for supporting the floors of the galleries over the large openings of the aisles. The girders are of wrought-iron, and those for the galleries are of cast-iron. The fronts of the galleries are also supported by cast-iron girders. The dimensions of the building are 1851 feet in length, and 456 feet in breadth in the widest part. It covers, altogether, more than eighteen acres, and the whole is supported on cast-iron pillars, united by bolts and nuts fixed to flanges turned perfectly true, and resting on concrete foundations. The total cubic contents of the building are 33,000,000 feet. The six longitudinal galleries, 24 feet in width, running the whole length of the building, and the four transverse ones, of the same dimensions, afford 25 per cent additional exhibiting surface to that provided on the ground-floor. This extra space is suited for the display of light manufactured goods, and will also give a complete view of the whole of the articles exhibited, together with an extensive view of the interior of the building. In order to give the roof a light and graceful appearance, it is built on the ridge-and-furrow principle, and glazed with British sheet glass, as previously described. The rafters are continued in uninterrupted lines the whole length of the building. The transept portion, although covered by a semicircular roof, is also on the angular principle. All the roof and upright sashes being made by machinery are put together and glazed with great rapidity, for, being fitted and finished before they are brought to the place, little more is required on the tops than to place the finished materials in the positions intended for them. The length of sash-bar requisite is 205 miles. The quantity of glass required is about 900,000 feet, weighing upwards of 400 tons. All round the lower tier of the building, however, will be boarded with fillets planted on in a perpendicular line with the sash-bars above. I have tried many experiments in order to find out the most suitable floors for the pathways of horticultural structures. Stone is objectionable on many accounts, but chiefly on account of the moisture and damp which it retains, which renders it un-

comfortable, especially to those wearing thin shoes. The difficulty of getting rid of the waste from the watering of plants is also an objection; but, perhaps, the greatest is the amount of dust from sweeping, which always proves detrimental to plants. I likewise found that close boarding for pathways was open to many of the same objections as stone; for although damp or moisture was in part got rid of, yet still there were no means of immediately getting rid of dust. These various objections led me to the adoption of trellised wooden pathways, with spaces between each board, through which, on sweeping, the dust at once disappears, and falls into the vacuity below. Whilst the accomplishment of this point was most important in the plant-house, I consider it doubly so with respect to the industrial building, where there will be such an accumulation of various articles of delicate texture and workmanship. Before sweeping the floors of the great building the whole will be sprinkled with water from a moveable hand-engine, which will be immediately followed by a sweeping machine, consisting of many brooms fixed to an apparatus on light wheels, and drawn by a shaft. By this means a large portion of ground will be passed over in a very short space of time. The boards for the floor will be nine inches broad, an inch-and-a-half thick, laid half an inch apart, on sleeper joists nine inches deep and three inches thick, placed four feet apart. This method of flooring, then, possesses the following advantages:—It is very economical, dry, clean, pleasant to walk upon, admits of the dust falling through the spaces; and, even when it requires to be thoroughly washed, the water at once disappears betwixt the openings, and the boards become almost immediately fit for visitors. The galleries will be laid with close boarding. The ventilation of the building has been carefully considered. A building where so many individuals will congregate will require a constant admission of pure air; and a most copious supply is provided. Four feet round the whole of the basement part of the building is made of louvre-boarding, and at the top of each tier a similar provision of three feet is made, with power to add an additional quantity if required; in the centre aisle, also, the air will be plentifully admitted. By simple machinery the whole of this ventilation can be regulated with the greatest ease. The advantages of this kind of ventilation are several. Louvre boards are very simple in construction; they can be opened and closed instantaneously with the greatest readiness; they nicely distribute the air, and yet admit a large volume of it, and, from the manner in which they are placed over each other, they effectually prevent the entrance of wet in rainy weather. In order to subdue the intense light in so large a building covered with glass, all the south side of the upright parts and the whole of the angled roof will be covered outside with canvass of calico, so fixed as to allow a current of air to pass between the canvass and the roof. In very hot weather water may be poured on, which will very much assist in cooling the temperature within. Provision will be made to use the Indian plan of ventilation, if the heat is so intense as to render it desirable to have the temperature cooler than out-of-doors. A house was fitted up last summer at Chatsworth, as an experimental place to try this mode of ventilating, when it was found to answer the purpose admirably. The temperature was reduced in one hour from 85 to 78 degrees, without any other means being used to increase the draught through the building. This sort of covering offers the following advantages:—The brightness of the light will be tempered and subdued, the glass will be protected from the possibility of injury by hail; the screen being placed on the outside will render the building much cooler than if it were placed inside, and through this provision the ventilation can be regulated at pleasure. From the side galleries, running the whole length of the building, there will be grand views of the goods and visitors below, whilst the transverse galleries, in the middle and at the ends, will afford ample means for general supervision, and will serve to communicate between the side galleries. Magnifying glasses, working on swivels, placed at short distances, will give additional facility for commanding a more perfect general view of the Exhibition. After the Exhibition is over I would convert the building into a permanent winter garden, and would then make carriage-drives and equestrian promenades through it. Pedestrians would have about two miles of galleries and two miles of walks upon the ground-floor, and sufficient room would then be left for plants. The whole intermediate spaces betwoen the walks and drives would be planted with shrubs and climbers from temperate climates. In summer the upright glass might be removed, so as to give the appearance of a continuous park and garden. I have now endeavoured to give a brief outline of the Exhibition building of 1851. It will be seen from the simplicity of all its parts, together

with the simplicity of the detail, that the construction does not offer a subject that requires me to dwell longer upon. The section of one part shews the whole; for it is only by the multiplication of these parts that the stupendous structure now in progress is extended. When I consider the cheapness of glass and cast-iron, and the great facility with which they can be used, I have no doubt but many structures similar to that at Darley will be attached to dwelling-houses, where they may serve as sitting-rooms, conservatories, waiting-rooms, or omnibus-rooms, if I may be allowed the expression. Structures of this kind are also susceptible of the highest kind of ornamentation in stained glass and general painting. I am not without hope, however, that it will become almost universal in its use, and that the system will be extended for manufacturing purposes as well as general cemeteries, and also horticultural buildings, so that even market-gardeners will advantageously apply it in the growing of foreign fruit for the London markets; I even go so far as to indulge in the sanguine hope that agriculture will be ultimately benefited by the application of cast-iron and glass. In short, there is no limit to the uses to which it may be applied—no foresight can define the limits where it will end; and we may congratulate ourselves that in the 19th century the progress of science and the spirit of manufacturers have placed at our disposal the application of materials which were unknown to the ancients, and thereby enabled us to erect such structures as would have been deemed impossible even in the early part of the present century."—Most of the principal difficulties of construction of this edifice are overcome, and the building progresses rapidly, through the economic appliances of the engineers engaged in the task of erection, and who, by their energy and skill, have given such effect to Mr. Paxton's design. All the dimensions of the Crystal Palace are multiples of one small manageable figure, in order that the various materials required for its construction may be prepared in certain ascertained dimensions. The figure 8 is multiplied 3 times for the width and height of the smallest aisle, which is 3 × 8 = 24 feet, of the second aisle the width is 6 × 8 = 48 feet, of the centre aisle 9 × 8 = 72 feet.

SCHOOLS OF DESIGN.

THE papers which Mr. Milner Gibson moved for in the Commons, and those which the Board of Trade have thought fit to publish as a supplement to them, enable us to see what has been the practical working of the Schools of Design since the parliamentary inquiry of 1849. These papers make it clear that that inquiry, by directing public attention to the subject, has been the means of stirring up the Schools into unusual activity, and the results have been on the whole advantageous. At the same time, these documents give no satisfactory assurance whatever, that the constitution of the School, which ought to guarantee as far as possible a sound and continued healthy action, has been properly reorganised or considered: indeed they furnish proofs to the contrary, and, notwithstanding the general attempt throughout the papers on all sides to make matters appear *au couleur de rose*, there is ample evidence that the Schools are again on the eve of another revolution, which will be laid to the intractability of artists.

The only constitutional change which the inquiry of 1849 seems to have effected is, to have caused "all letters written and communications made to be for the future in the name of the lords of this Committee," *i.e.*, the Board of Trade. The acting lords are the President and Vice-President of the Board of Trade, the others are the Archbishop of Canterbury and Cabinet Ministers.

Everybody knows that although the President and Vice-President of the Board of Trade have the nominal responsibility they cannot be held to be virtually and personally responsible for the management of the School of Design. Neither of them would say in Parliament, "The present state of the School is attributable to *me*. I have the honour of its success, and the blame of its failure is *mine!*" Nothing of the sort. The necessity of such a common-sense, individually responsible arrangement, which we exact in all private undertakings, in commerce, in the army, and navy, is not even yet felt to be indispensable in conducting instruction in art.

We learn from these documents, that the Board of Trade engaged the head-masters to teach some ten or twelve hours per week,—an arrangement which acknowledged the School to be quite a secondary matter to their professions as artists, and in itself very objectionable. The Board seem now to have placed upon the masters "the entire conduct of the School." "They are to act as cura-

tors;" "to select examples" and "to see to the arrangement of them; to make catalogues; to report on the female Schools," &c. In addition to these duties they have been called upon to perform the duty of reporting on the works produced in the Country Schools, and have done so. We must do the head-masters the justice to say that there seems to have been an earnest desire on their part to undertake and perform these various duties; but whilst this is the case on their side, it does not appear that the Board of Trade have yet offered any additional remuneration for the increased duties, or that there has been a proper division of duties among the masters: such duties to Mr. Herbert, to Mr. Redgrave, and to Mr. Townsend. We remark evident symptoms that the head-masters are justly impatient of their present position, and that, however much they may have had the zeal to keep matters going, there is no security that this will continue, and the present comparative success of the Head School be insured.

As respects the Country Schools, the head-masters have been called upon to perform what must be at all times a most ungrateful task, the inspection of the results of the system of instruction; but it is a duty which it is right they should be charged to perform, for they alone are, or ought to be, able. Of course we are not surprised to receive all sorts of objections on the part of some of the country masters, who would prefer not submitting to this practical test of their efficiency. No doubt they desire irresponsibility, and there are some who for their own ends, and to cover their own incapacity, would encourage them in a resistance. But whatever uneasy wriggling and intrigue there may be on this point at present, it may be taken for granted, that the public will demand that the works of the Country Schools shall be exhibited and criticised, and the masters held responsible for them. The country masters for the most part are paid amply for their duties. 300*l.* a-year is certainly beyond the average earnings of many noted names in art. At present the names of the country masters are not noted for anything. We hope they will become so. We will endeavour to help them; and we prophesy that every country master before long will be called upon, as the condition of his tenure of office, to exhibit annually specimens of his own work in drawing of ornament and of the figure; in painting both in ornament, flowers and the figure; in modelling, and in *design!* In fact, that, like all other public servants, he shall be called upon to prove his competency and shew his works to the public. Those who are not mere incompetent pretenders will not shrink from, but rather court this examination; and we are glad to hear that the master of the Manchester School has very properly proposed to exhibit some of his own productions in design at the Exhibition of 1851; whatever may be the result of his efforts, he deserves full credit for making them.

The tables in these papers shewing the Classification both of Drawings sent up from the Branch Schools, and of those exhibited by the Head School, usefully demonstrate the relative amount of work produced in London and the Country. The London School exhibited 6642 works, the Country Schools sent 856, including Spitalfields. The following details shew the course of instruction, and may be quoted:—

	Country.	London.
Geometrical, Architectural	103	934
ORNAMENT—		
Outlines, flat	*205	4384
„ round	20	78
Shaded, flat	44	
„ round	30	105
FIGURE—		
From the flat	107	243
From casts, outline	27	6
„ shaded	26	55
Anatomy of Man and Animals		22
Flowers from Nature	101	21
PAINTING—		
Ornament, Monochrome	10	47
„ in colour	21	21
Flowers, from flat	14	61
„ from nature ..	23	163
Figure, from cast	6	5
„ on colour		14
MODELLING—		
Ornament	17	13
Figure	12	16
From nature	3	4
Life studies	5	15
DESIGNS................	81	345

Of the eighty-one designs returned from the Country Schools, fifty-five are from Spitalfields and five from Manchester. None come from Coventry, Leeds, Newcastle, Nottingham, Paisley, Sheffield, and York—these Schools still fulfilling Mr. Inspector Poynter's taunt that the Country Schools were "mere drawing" Schools, and the justice of the report that there "is, with scarcely a single exception, an absolute want of the application of elementary teaching in the production of design."

The present papers also prove that the appointment of Mr. Poynter as Inspector of the Country Schools is virtu-

ally a sinecure. Mr. Poynter has nothing whatever to do with the London School and its 6000 works. The real and practical results of the Country Schools are brought before and reported on by the head-masters, and Mr. Deverell has the duty of looking after all the financial business. The examples for the Country Schools are bought by the head-masters, &c. What then, it may be asked, is there remaining for Mr. Poynter to do, when he leaves his official duties in the Metropolitan buildings in the Adelphi, and, inspecting the Schools of Design, takes them as "he is about to proceed to the county of Durham" (*vide* p. 50), probably on a private professional visit? He writes reports certainly for his 500*l*. a-year, in which he reports the Schools, particularly the larger and more important, as being in a most satisfactory state. Thus (p. 21) "Manchester School is in a flourishing condition." Sheffield "continues satisfactory" (p. 29); again, "continues to be conducted in the most satisfactory manner" (p. 31). But notwithstanding these complimentary generalities, the dry, hard facts of the tables already mentioned shew that there were no proofs of teaching in "drawing round ornament," or "Anatomy or Flowers from Nature"—"no painting—and of course no designs" in Sheffield. The Potteries are also "most satisfactory" (p. 34). Glasgow "has the greatest success," &c. Mr. Poynter finds a satisfaction in the Schools, but he continues his old grudges against the manufacturers, who *will* measure them and their management by their practical results. He speaks in his Manchester report of "the vulgar and pernicious error so generally entertained by manufacturers as to the immediate effect of the School in becoming a market for patterns as wearing out." Again, speaking of the Norwich School, he says, "The prospect has not improved, and such little connexion as there was between the manufactories and the School has nearly ceased; nor is it any matter of surprise that this should be the case, when manufacturers at the head of the shawl trade and members of the Committee are at this period of the existence of the School expressing their disappointment that it cannot furnish them with designs better and cheaper than they can obtain from their old designers." Mr. Poynter's statement, if not his logic, appears to be, that the longer a School exists, the further it should be from enabling its pupils to furnish designs better and cheaper. And the Board of Trade still hear patiently this nonsense from an inspector in return for his 500*l*. a-year! We hope the Norwich manufacturers will have a word to say to Mr. Poynter when he visits the School at his professional convenience.

THE ROYAL ACADEMY.—Mr. Eastlake has been elected President of the Royal Academy of Artists, in the room of Sir Arthur Martin Shee, deceased, and the opportunity is now presented to him, by using the advantages of his present position, to review all that is faulty in an institution, originally intended to benefit the general body of our artists, and to raise its character to a point which shall command the esteem of the public and the confidence of his professional brethren. With Mr. Eastlake's capabilities as an artist I have nothing here to do, but he will scarcely find the chair of President of the Academy strewed with roses, should he fail to aim at much higher and more extended views than that of merely becoming a means of communication between that body and a few fashionable patrons. Struggling merit, even though it should not have been fostered within the walls of the building in Trafalgar Square, claims a better opportunity for annual notice. This is merely one of the many reforms necessary. It is only by a strong exertion and a conscientious exercise of the means afforded to him, by the presidential influence, that whatever is a grievance in the polity of the institution can disappear, and that which is useful be retained, the common interests of his fellow-artists properly asserted, recognised talent admitted, and the society, of which he is at present the head, be prevented from becoming effete and morally defunct. VIGIL.

Miscellaneous.

EXHIBITION OF 1851.—A charge of 5*s*. is now made to all who apply for entrance to inspect the works; any fund arising from this charge is to be applied to the funds for the sick, or disabled, workmen. As one of the indications of the interest which the forthcoming Exhibition in 1851 is already producing, we may mention that Messrs. Day and Son have already issued 2500 copies of the lithograph executed by them of the "Palace of Glass." Many of the makers of fancy white-wood boxes, and other goods of that class, have received numerous or-

ders to apply this lithograph upon their different wares. The silk printers have also been applied to, in order to produce the same representation of the building upon pocket-handkerchiefs, &c. To the Exhibition of 1851 as an indirect cause, and to Mr. G. Godwin as the direct cause, the public owe the substitution of an appropriate allegory in the LORD MAYOR'S SHOW for the mummeries of Gog and Magog. Mr. Godwin hit the nail on the head just at the right moment.

CHANGE OF COSTUME.—Every whim and crotchet will struggle for its share of notoriety in 1851. We have been amused to see a project for inducing MANKIND TO CHANGE THEIR CLOTHES, and study the picturesque in costume. The picturesque, indeed! as though the present costume, being infinitely more suitable for the business and active habits of the wearers than any fanciful garments could be, were not, therefore, essentially more picturesque. Complaints levelled against the present mode of dress, and the affected yearning after togas and other anachronisms are rather puerile. The human figure is, in itself, an example of the picturesque of the highest class, and you may know more of its character, developement, and expression, in our close and honest habits than is possible when hidden in drapery. As, however, the subject appears to be seriously entertained, we would propose for the consideration of the "committee of artists," who are to devise these new fancies for the craft of habit-makers, that they should by no means revert to what the "studio" has lately produced, as models of costume, either abroad, or from several later statues which have been intended as ornaments to our metropolis, that although we have noticed strange figures issuing from the studio, we need no longer bedaub our bodies with woad, or ochre, even for the sake of "carrying out" harmony in colour, as is (whether truly or not) reported of us by Cæsar's generals; nor do we much care to delight in our long, uncombed hair, as in the Saxon times, nor quite to follow the close crop of the Norman, nor to chain our toes to our knees; we intimate that bishops and judges (good judges too), are not now expected to cultivate moustaches, although they might with advantage dispense with their wigs; that very serious people will no longer be disfigured by lank *chevelure*, nor will our young cavaliers take the trouble to cultivate falling love-locks, nor will our fathers wear stiff skirts or pigtails, or lard and flour their heads, for the admiration of *qui que çe soit;* our grandmothers even won't sport peaked hats, nor hooked sticks; nor will our merchants or traders don velvet or frieze upon 'Change; that trinkets and feathers, and lace, and satin, and velvets, &c., be apportioned to the fair, and that our men have learned this lesson from a great teacher, that the habit should be

"Costly as the purse can buy, but not expressed in fancy;
Rich, not gaudy; for the apparel oft bespeaks the man."

Dress is a result of manners and customs, and must necessarily follow them; it is not to be treated as a toy, or in sport. This crotchet, however, is almost harmless, whilst it is ridiculous.

BRONZE CASTING.—In connexion with the casting of the third bronze tablet, intended for the Nelson statue in Trafalgar Square, and which is now fixed in its compartment, we see that a colossal statue of BAVARIA was inaugurated at Munich, on the 9th of October. Placed at an elevation of about 40 feet above the general level, the figure itself is 54 feet high, and the granite pedestal is 30 feet. The statue stands in front of the white marble Doric temple, the Ruhmeshalle, intended to receive busts of the great men of Bavaria; a female figure upholding the laurel wreath, a lion reposing by her side, and her right hand resting upon a sheathed sword placed in her girdle. The correspondent of the *Athenæum* says,—"In casting the bust of the figure—the largest portion—the greatest difficulty had to be encountered. It was necessary to melt for the purpose twenty tons of bronze,—five tons more than had ever before been melted in the furnace. As this immense mass of metal slowly began to fuse, it began also to cake,—thus threatening to destroy not only the casting, but the whole furnace, with untold danger to life and limb. Six men had, in spite of the oppressive heat and the ever-increasing glow of the furnace, to take it by turns, night and day, incessantly to stir with long iron bars the molten mass, lest it should adhere to the furnace walls, and so bring annihilation on all. On the evening of the fifth day of anxiety, when Ferdinand Miller for the first time sought a short repose in his chair, he was suddenly aroused by his faithful and anxious fellow-watcher, his wife, with the cry of 'Ferdinand, awake! the foundry is on fire!'" We are strongly reminded, in reading this, of the accidents which hap-

pened to Benvenuto Cellini in casting his famous statue of Jupiter for François I., and of the fear and anxiety amidst which it was produced—the cases are parallel. The statue was executed by Schwanthaler in conjunction with Lazarini (both since deceased), and has been cast by Mr. Ferdinand Miller, the nephew of the former; the bronze was obtained by diving for the Turkish cannon, untowardly sunk at Navarino; it cost 92,600 florins. "The medium of the casting," says the *Builder*, "is half an inch; twenty tons of bronze were melted for the purpose; a winding staircase leads through the figure to a chamber in the head, where persons can view the surrounding country. The face is equal to the height of a man, the body 12 feet in diameter, the arm 5, the finger 6 inches; two hands cannot cover the nail of the great toe. The statue is of a tawny gold-colour, and its appearance is majestic and beautiful."

METHOD OF PRODUCING COPIES OF CARPETS, &c.—We extract a mode proposed for multiplying copies of pieces of tapestry, carpets, rugs, &c., from a process communicated to the British Association by Professor Vignolles:—"Let a number of small pieces of wood, of different colours, two inches in length and the eighth of an inch square in their cross section, be arranged in the direction of their lengths in any desired combination,—say, so as to present, when looked down upon on the surface made by their ends, a succession of diamond or square-shaped lozenges. Now, suppose all these pieces of wood so arranged to be fastened in some way or another to prevent them from separating; then by a sharp-cutting tool, to cut off, say a length of a quarter of an inch. The wood being coloured throughout the length, it is evident that the new surface will present the same design as the original one prepared. Out of the supposed length of two inches, eight cuttings might be got; and could the pieces composing these cuttings be kept permanently together, eight copies of the design would be procured. The reader will now be prepared to understand the process as described in a general way by the Professor. Two frames of fine wire or perforated zinc, having as many as four thousand perforations in each square inch of surface, were placed so that the one was above the other at any required height. These frames are accurately placed horizontally, with the holes of the upper coinciding with those of the lower. The designer, provided with long threads of dyed wool, introduces these into the corresponding holes in the two frames, in such combination as to produce the required design. The threads of wool, when viewed from the sides or ends, present a compact body of many coloured threads; the design can only be seen by looking down upon the surface of the top frame. The reader will perceive how that at every part of the cross section of this mass of threads there will be a repetition of the design at the top. Here then is a magazine from which any number of copies may be obtained, varying in number with the distance between the frames and the length of each cut: in a length of five feet, 480 copies, each one-eighth of an inch in length, can be obtained. The design then being wrought out and the frames filled, the upper ends of the threads are covered with india-rubber cement, and a cloth laid upon this to keep all the ends together; a sharp cutting instrument is then used to cut through the compact mass of threads. We have not heard whether this process has been brought into extensive operation; but elegant in principle, we see no great practical difficulties to prevent its being rendered useful in practice."—*The Engineer and Machinist.*

EXTENSION OF COPYRIGHT.—Can a printed shawl pattern, registered *first day of May*, 1850, in pursuance of the Designs Copyright Act, 5 & 6 Vict., c. 100, in respect of the application of such design to articles comprised in Class Seven, for which a copyright of nine months *was granted*—can such a pattern as the above be *re-registered for a further period* after the first *period is out?* when it can be done and what fee is payable? and *what further time* of copyright *is granted?*—R. [The Board of Trade, by the Designs Act of 1850, has the power to extend the period of copyright of any class of ornamental design for any period not exceeding three years. But the Board has not yet issued any rules relative to such extension, and is probably awaiting applications from manufacturers for its guidance.—*Ed. J. of D.*]

Original Papers.

POLYCHROMATIC DECORATION IN ITALY.

By M. Digby Wyatt, Esq., at the Royal Institute of British Architects, December 2d.

PLAN FOR DECORATING THE BUILDING FOR THE EXHIBITION OF 1851.

By Owen Jones, Esq. *Idem.* December 16th.

The advantage of the use of polychromy in architecture and mural decoration is now more generally appreciated amongst us, and in no country is this genial art more required than in our own, in order to obtain that cheerfulness in all interior decoration which we are for so long a period of the year denied by our climate. We advocate the desirable practice of this art, and view it, abstractedly considered from subjects with which it has no possible, necessary, connexion, as one of proper introduction and as a means of conducing to the taste, comfort, and advancement of the age.

Mr. Wyatt has endeavoured to shew how far the painting of classical times was perpetuated in the mediæval polychromatic decorations of Italy, and to what extent the Greek element was affected by Roman tradition. The earliest paintings after the time of Constantine are to be found in the Catacombs of Rome and Naples; these sacred depositories were the haunts of the friends and relatives of those who had suffered in the days of persecution; and to these are the works to be ascribed. The outlines in these are strongly defined by a firm, broad, and dark-brown line; the figures are by no means well drawn; the colours and shadows, although heavy, not very forcible. In works of a little later date, we find the same traces of colouring, but the style is distinct from that of Greek art of the period in which light and shade are indicated by positive lines, following the forms of the limbs. The whole character of Greek art is marked by that peculiar convolution which was the consequence of the habit prevalent among them of decorating their vestments and draperies with elaborate needle-work, and filagree ornament. It pervades their drawing of the figure, as it no doubt pervaded their embroidered work, an influence of which may be traced in Saxon and northern manuscripts.

"In the MS. published by Muratori, attributed to the middle of the eighth century, which exhibits departures from the processes of manipulation described by Pliny, we trace the germs of the prevalence of that green tint which the Byzantines adopted for their demi-tints in flesh-colour, and which furnishes a means of distinguishing the works produced in Italy, in the Greek, or *green* school, from those executed in the Roman, or *reddish-brown* school.

"In the treatise of Heraclius, *De Artibus Romanorum*, ascribed by Mr. Hendrie to the early half of the tenth century, many old Roman expressions for colours and paintings are found, indicating among the Italians of that period a lively feeling for the old style of Roman painting.

"We find in the treatise of Theophilus, a manuscript of extensive circulation in the middle ages, written at the commencement of the twelfth century, though sometimes assigned to an earlier date, that the old processes known to the Romans, such as tempera, fresco, and *fresco-secco* painting, were perfectly well known among the Greeks; and we find a complete description of all the various modes which actually came into use in subsequent periods in Italy; and on comparing this with the curious manuscript discovered by M. Didron in the convent at Mount Athos, we find that the Greek practice was nearly coincident with that detailed by Theophilus, who also describes many of the processes used in the north of Europe.

"Among the first and greatest efforts in mosaic, we find those of the church of Santa Sophia. Every one interested in the subject will rejoice to know, we may expect a full account of these by M. Fossati.

"The renewal of artistic vitality among the Greeks, after a period of persecution of painters of figures, was felt almost immediately in Italy. Early in the eleventh century, Greek artists came to Italy, and again worked in mosaic. The church of San Clemente would alone suffice to attest the imagination and vigour of the artists of the period. The great feature of all Byzantine mosaic

is the gold ground, which exerted an important influence on the productions of artists of a later time. The churches of Monreale at Palermo, St. Mark at Venice, Santa Maria Novella at Florence, are decorated with mosaics by Greek artists. Fra Giacomo da Turrita, the monk of Sienna, acquired the art of mosaic for Italy in the latter church, and first executed a small mosaic for the cathedral at Florence; he afterwards decorated S. Giovanni Laterano and Santa Maria Maggiore at Rome. Apollonius, a Greek artist, was sent by the Venetians to Florence, and taught Andrea Tafi to execute the mosaics in the Baptistery there. From that time the art was naturalised in Italy, and flourished in a high degree at Pisa, Florence, and elsewhere; under the Gaddi family the highest point of beauty was attained in Tuscany in these ancient mosaics.

"In entering upon the subject of *painting in colours*, we find that Cimabue, the contemporary and friend of Gaddo Gaddi, acquired at once an amazing influence in that branch of art. His greatest work, which has stamped his reputation, is the ceiling of the church of San Francisco at Assisi. A characteristic of all his works is, that, in consequence of his connexion with the decorators in mosaic, the key, so to express it, in which they were composed appears to have been that of mosaic. His grounds are generally golden, and in the midst of mosaic patterns, and of so much that is evidently Greek in the drawing of the figures and draperies, the acanthus is introduced, wreathing round 'puttini,' or little figures of boys; and many other of his ornaments are completely classical in style. Kugler's remarks on the peculiar classical feeling shewn by Cimabue suggest the idea that the spirit of Greek decoration, when actually attaining its climax of beauty, evidenced its old Roman origin more strongly than in the inferior stages of its developement. We must not, however, forget the fact, that painting in Italy had been worshipped by many votaries before Cimabue, as, for instance, by Guido, Diotisalvi, Duccio di Buoninsegna, and others, the fathers of the Siennese school; and by Giunta di Pisa, whose works at Assisi form a model in point of harmony of colour in decoration. Owing to the engagement by the Benedictines in literary pursuits, it remained for the Franciscans and Dominicans to inspire a new feeling for art in Italy, and traces of it may be met with as early as the year 1200. The immortal Giotto was an artist of the highest order: one great charm in his works is the feeling for the poetry of devotion which seems to run through them all. His first works were executed at Florence, and they subsequently procured him employment at Rome. At Padua, in the chapel of the Arenata, he executed the paintings representing the life of our Saviour and of the Virgin, and it is thought that our own Flaxman has derived much of his grace from the study of these. Giotto was summoned to Assisi, and has there given a series of subjects from the life of St. Francis, which have scarcely ever been equalled by the works of artists of a much later period, and of far greater power. The architecture of this church at Assisi is one of the first specimens of the introduction of the 'Tedesco,' or German element, into Italy. Throughout Italy the remains of the mosaic style are to be traced in the fresco-paintings, and nowhere are they more manifest than on the walls of the Campo Santo at Pisa. The gold of the mosaics, which was at first retained by the fresco-painters, began to disappear, its use being principally confined to the delineation of the nimbus that surrounds the heads of the saints and different ornaments about their persons. There remain numerous instances of Gothic decoration, similar to that at Subiaco, many of which are due to masters whose names are unrecorded; many doorways, and other parts of churches, shew the manner in which the external architecture of Italy was polychromatised. In some, mosaics of different marbles are employed, while the further aid of colour is combined to bring various materials into harmony, and to unite parts which would otherwise remain in discord. The façade of the church of San Bernardino, at Perugia, is an illustration of the manner of external polychrome by means of fictile ware; the whole of this church is executed in different-coloured marbles and terra cotta, and is the work of Agostino della Robbia. Raffaelle and Pinturiccio were both pupils under Perugino; and we may observe how

the system of colouring became altered. In the early frescoes the artists had in mind pure colours—reds, blues, yellows, bright greens, &c.; in these the browns, greys, and tertiary colours, come into play as a ground upon which they painted. In the various illustrations of style culled from the arabesques of the Vatican, we are enabled to trace the developement of the 'grotesque,' so called from the study of the paintings on the ancient 'grotte,' or 'cubicula.'

"A peculiar mode of decoration existed in Italy, by the use of coats of different-coloured plaster, one over the other; the bottom dark, the next grey, and the third white; upon which, in order to produce a dark tint, the artist drew with a style, or pencil, or removed the plaster, till he reached the black ground: for a half-tint, he scraped off the white, and kept the grey, whilst the white was left for the strong lights. In a short time after its introduction, this art was carried to so high a pitch, that Giulio Romano decorated the whole front of several palaces with different-coloured cements, and with extraordinary rapidity. This is a mode particularly adapted to English practice, and to English climate, as all the coats of stucco might be made to resist moisture."

Mr. D. Wyatt concluded a most interesting discourse with a hope that the preliminary practice of contemplating a building as it should be in its complete form, with its architecture, sculpture, and painting united, which obtained universally for so many centuries in Italy, might become a constant practice among us also. In the history of the world there has scarcely been known a country, so advanced in civilisation as our own, which has studied the arts in so isolated and accidental a manner.

The scepticism expressed of the soundness of the views of Mr. Owen Jones, in the mode of colouring the interior of the Great Building for the Exhibition, caused him, on the 16th of December, to lay before the Institute the motives which had guided him in the selection of the mode of colouring he had proposed. He remarked that:—

"Of late years the employment and appreciation of colour has made most rapid strides throughout Europe; but England has lagged far behind, which is the more remarkable as her painters have long been renowned as colorists. The interiors of our houses have been given over to the upholsterer and decorator, many of them men of great taste and talent, I admit; but still we must regret that architects have not directed more of their skill and learning to this subject, and been prepared to lead rather than to follow. The evidences of colour on the monuments of Greece were first stoutly denied, and then supposed to be the works of after barbarous ages. Men were reluctant to give up their long-cherished idea of the white marble of the Parthenon, and the simplicity of its forms, and refused to regard it as a building coloured in every part, and covered with the most elaborate system of ornamentation. The architecture of our fine Gothic cathedrals has lost half its beauty from the absence of colour.

"It is not necessary to describe the building, the painting of which we discuss. It is well known to most by its marvellous dimensions, the simplicity of its construction, and the advantage which has been taken of the power which the repetition of simple forms will give in producing grandeur of effect; and this grandeur may be still further enhanced by a system of colouring which, by marking distinctly every line in the building, shall increase the height, the length, and the bulk.

"The very nature of the material of which this building is mainly constructed—viz. iron, requires that it should be painted. On what principle shall we do this? Should we be justified in adopting a simple tint of white or stone colour, the usual method of painting iron? Now, it must be borne in mind that this building will be covered on the south side and over the whole of the roof with canvass, so that there can be but little light and shade. The myriads of similar lines, therefore, of which the building is composed, falling one before the other, would lose all distinctness, and would, in fact, form one dull cloud overhanging the Exhibition; a line of columns, as even now may be seen at the building, would present the effect of a white wall, and it would be impossible in the distance to distinguish one column from another. This mode of painting would have the further disadvantage of rendering the building totally unconnected with the various objects it is destined to hold.

"Let us now consider the building painted with some pale neutral tint—dull green or buff. In doing this we should be perfectly safe, provided the colours were not too pale to be indistinct, or too dark so as sensibly to affect the eye. It would be necessary that this tint should be of such a subdued neutral character as to avoid a difficulty well known to mounters of drawings and painters of picture galleries, that, in proportion as you incline to any shade of colour, in that exact proportion you injure or destroy the objects it is intended to relieve which may have similar colours. To this, then, should we be reduced—a dull monotonous colour without character.

"We are now brought to the consideration of the only other well-defined system which presents itself—parti-colouring.

"This, if successfully carried out, would bring the building and its contents into one perfect harmony; it would fitly carry out one of the objects for which this Exhibition was formed—viz. to promote the union of fine arts with manufactures. It would everywhere bring out the construction of the building, which would appear higher, longer, and more solid.

"To produce this result it is essential not to make a mistake. Parti-colouring may become the

most vulgar, as it may be the most beautiful, of objects. It is necessary, therefore, to proceed with great caution—to calculate the effect of every step, not to be misled by the appearance of any one portion of the building, but bear in mind always the effect the building will have when complete and furnished.

"If we examine the remains of the architecture of the ancients, we shall find, everywhere, that in the early periods the prevailing colours used in decoration were the primaries—blue, red, and yellow; the secondaries appearing very sparingly. We find this equally in the remains of Nineveh, Central America, of Egypt, and Greece; and throughout the Eastern civilisation generally; we find also everywhere that, as time wore on, the secondary colours, invading the dominion of the primaries, blue and red were supplanted by green and purple. In Egypt, in the temples built by the Pharaohs, blue, red, and yellow, mainly prevail; while in those built by the Ptolemies the green and purples take their places. In those of the Roman period colours are still further degraded to a dull and incongruous muddiness. In the Alhambra the blue and red of the Moors were painted over with green and purple by Charles V. and his successors, and with the worst effect. It is equally true of the works of the middle ages. In the early manuscripts, in the stained glass, though other colours were not excluded, the primaries were chiefly used; while in later times we have every variety of shade and tint, and rarely with equal success. When the secondary colours were used, in the best periods, in conjunction with the primaries, they were generally confined to the lower parts of the building; following, in this, Nature, who uses for her flowers the primaries, and reserves the secondaries for her leaves and stalks.

"In the decoration of the Exhibition building I therefore propose to use the colours blue, red, and yellow, in such relative proportions as to neutralise or destroy each other. Discarding the perfect neutral, white, as unfit for the occasion, we naturally adopt the blue, red, and yellow in or near the neutral proportions of 8, 5, 3; but, to avoid any harsh antagonism of the primary colours when in contact, or any undesired complimentary secondaries arising from the immediate proximity of the primaries, I propose in all cases to interpose a line of white between them, which will soften them and give them their true value

"It is well known, that if blue and red come together, without the interposition of white, they would each become tinged with the complimentary colour of the other: thus, the red would become slightly orange and the blue slightly green. As all coloured bodies reflect some white rays, the white in juxtaposition by its superior force extinguishes those white rays, and we see the colours purer, at the same time that the white becomes tinged with the complimentary colour of that against which it is placed, thus further heightening the effect.

"As one of the objects of decorating a building is to increase the effect of light and shade, the best means of using blue, red, and yellow, is to place blue, which retires, on the concave surfaces; yellow, which advances, on the convex; and red, the colour of the middle distance, on the horizontal planes; the neutral white on the vertical planes. Following out this principle on the building before us, we have red for the under-sides of the girders, yellow on the round portions of the columns, blue in the hollows of the capitals.

"In ordinary cases the architect may shut up his building till his work is complete; here the public will watch every step from the first to the last. On this account I invite you to suspend your judgment, and beg of those who have already seen the specimen of the building, or who may see the work in its progress, to banish constantly from their minds the objects by which it is now surrounded. It is evident to all, that a yellow and blue column will appear very differently when seen with a carpet, or other hangings, for a back-ground, to what it does now with a back-ground of deal boards and fore-ground of carpenters' benches. This I had the honour of pointing out to the Royal Commissioners by suspending a series of carpets at a distance of 24 feet from the columns; the yellow and blue, No. 1, stood out clear and solid, while in the red column, No. 2, the red fell back to the level of the carpets' red and brown, and the column lost its brightness and solidity

"The column No 3 (of secondary colours) in front of the carpets lost all form, and might as well have been a round one, and all advantage would have been lost of this very beautifully formed column, for which we are indebted to Mr. Barry."

In carrying out this plan Mr Jones had encountered some cavilling; more we believe, from the trials which he had *not* an intention to carry out, or through an imperfect and hasty judgment formed from a fragmentary specimen, than from any objection to his proposition as a whole. Some divisions had been painted, to shew the Commissioners that when placed in juxtaposition with the rich and mosaic effect of the assembled merchandise and legion of visitors, a secondary, or even the richest primary colour, red, when used alone, would be valueless and lost: the whole building, in fact, would have appeared one monotonous tent, overhanging like a cloud the bright specimens within, which would have become violently detached in patches from the back or surrounding ground, devoid of harmony, cheerfulness, or brilliancy. Mr. Jones is here carrying out the chromatic arrangements we find in the Early English style in architecture, and which was bequeathed to its immediate successors the Decorated and Perpendicular, but in many instances departed from by these later styles, in all cases with disadvantage. The architect has, also, the authority, not only of the schools of antiquity in his favour, but of the philosophers and masters of the arts down to the end of the sixteenth century,—unfortunately too often neglected as authorities. One of the last of these great authorities, Armenini, of Faenza, whose work has not been inappropriately termed, "The Golden Book," writes as follows: "For as one of the principal intentions of the poet is to give delight, by continually diversifying his poem with various episodes, so, in painting, the same variety should be sought by different and

gay colours. Although the subject and composition may be pleasing in themselves, yet if the colouring, which is the mode of expounding them, be not agreeable to the eyes of the spectators, it will be impossible to produce a good effect; because by means of colours, well united and harmonised, is produced that beauty which arrests the eyes of the ignorant, and lies hidden in the minds of the enlightened—the more lively they are, the more they strike and captivate."

IRISH FLAX MANUFACTURES.

BY J. MACADAM, JUN.

(Continued from page 102.)

It is of interest to note, that, in consequence of the rapid advance of this, which is, with trifling exceptions, the only kind of factory employment in Ireland, the ratio of increase in the persons employed in factory labour there is much greater of late than in England or Scotland, as will be seen by the following table:—

	Persons employed in Factories. 1839.	1847.	Increase per Cent.
England	349,294	455,042	30⅓
Scotland	59,314	67,243	13½
Ireland	14,863	22,591	52

At the present moment, including the new mills, about 1,900,000*l.* is invested as sunk capital in the buildings and machinery of the Irish flax-spinning factories. Adding the floating capital employed in this trade, not less than 3,000,000*l.* sterling is at present invested in it. The following table shews a comparison of the production and value of the yarns made and amount of wages paid in an interval of ten years:—

	Bundles of Yarn produced.	Value.	Wages paid.
1840	5,000,000	£1,500,000	£208,000
1850	7,400,000	1,942,500	317,000

The location of these factories is as follows:—

Province	County	No.
Ulster	Antrim	41
	Down	14
	Armagh	2
	Tyrone	3
	Monaghan	1
	Derry	4
	Donegal	1
		66
Leinster	Louth	3
	Meath	1
	Kildare	2
	Dublin	1
		7

Belfast contains 20 of these, and its immediate vicinity 6 more. There is one factory with 25,000 spindles, and several from 10,000 to 20,000.

The motive power is chiefly steam, but water is used in several of the inland factories. It is now considered that the advantages which Belfast offers for the location of a flax-factory, as being the centre of the trade, where the chief purchases of yarns are made by the manufacturers, and the greater convenience of obtaining skilled workers, are sufficient to counterbalance the greater cheapness of water-power in other localities. Hence the chief increase of spinning-machinery is found to be in and around Belfast. It may appear strange that the flax-spinning trade of Ireland can so successfully compete with the sister country, when the cost of fuel is considered. Nevertheless some of the English mills do not obtain coals so cheaply, as for instance in some parts of Yorkshire coals cost 18*s.* to 20*s.* per ton, while in Belfast they sell for 9*s.* to 12*s.* The proximity of the town to the coal-pits on the opposite coast of England and Scotland causes freights to be very low, and cheaper than inland carriage in England. About fifty vessels are constantly employed in bringing the supply of coals, and 160,000 tons are consumed annually. The

Irish flax-spinner has many advantages over the English. He is in the centre of a flax-growing and a linen-manufacturing country, and has thus a supply of the raw material and a demand for the yarn at his very doors, while his English competitor has in most cases to seek both at a distance. The wages to factory workers are also lower in Ireland, from the comparative cheapness of the necessaries of life. In consequence of this preponderance of advantages the Irish branch of the flax-spinning trade has been increasing in a much more rapid proportion than in either England or Scotland.

The yarns spun in the Irish mills are chiefly medium numbers, suitable for coarse and fine linens for home use and export. The Scotch yarns are generally very coarse, and used for canvass, bagging, and all kinds of heavy, coarse textures. The English spinners chiefly produce the numbers suitable for very fine linens, lawns, damasks, and cambrics, and export a large proportion to the Continent.

Ireland is both an exporter and an importer of yarns. In 1849 there were imported into Belfast 2272 bales of yarn, containing about 1136 tons, value about 102,000*l.* These were chiefly fine yarns from England, with a few of the coarse Scotch numbers. There were exported 1946 bales, containing about 973 tons, value say 70,000*l.*, besides a large quantity of linen threads.

The twisting of sewing-threads is an increasing branch of trade, and has improved greatly within the last ten years. Brown, bleached, and dyed threads are produced in several of the flax-spinning mills, and command an extensive sale in Great Britain and the Continent. One kind of bleached thread, made by a peculiar process to resemble silk, has lately been sold to the Nottingham lace-makers.

The employment of machinery in spinning flax may be considered the salvation of the Irish linen trade. Had Ireland continued to maintain hand-spinning, it would have been impossible for her to have contended with other manufacturing countries, in the markets of the world. The comparative cheapness of mill-spun yarns lies at the foundation of the present high position of our linen trade. Not only are these yarns much cheaper than if spun by hand, but they are more suited to the production of an even and uniform fabric. Formerly it was almost impossible for the linen merchant to assort his parcels properly, from the great variety of yarns employed in the manufacture, and from their unevenness of quality. At the present time large parcels of linen can be made to order to any degree of fineness, heavy or light, as may be required. The manufacturer buys his yarns in quantity from the spinner, and gives them out to his weavers, so that when he receives the linens they are as nearly of the same appearance and quality as possible, they bleach equally, and when exported abroad are always the same as sample.

Linens are no longer sold, in any quantity, in the open market by individual weavers. A new system has arisen. There are manufacturers, each of whom employs from 100 to 3000 weavers, and who purchase the yarn in quantity, boil it, wind it, and give it out to be woven, receiving the webs on certain days appointed for the purpose, and paying the weaver, by the piece, for his labour. Each manufacturer in general confines his make to certain kinds of fabrics. There are, however, some extensive houses, who are at the same time spinners and manufacturers, who give out their linen to the bleacher, and receive it from him when finished; after which they have it lapped and ornamented, and despatch it abroad or sell it in the home market. These houses make a great variety of articles, and are chiefly guided by the relative demand for each kind. Besides using all the yarn they produce in their own mills, they are often large purchasers of yarns from other spinners. The transactions of some of these houses are of very large amount, and their linens are sold in every part of the world.

The wages earned by weavers vary considerably with the state of trade. At present there is a full demand for all the hands produced, and the average earnings of a good hand, in the general range of linens, are 6*s.* to 10*s.* per week. Damask weavers can earn as high as 18*s.* or 20*s.*, or even more for some kinds. Much of the cambric is woven by young women, who can earn from 5*s.* to 7*s.* per week.

Under the old system of manufacture, when the weavers brought their webs to market, the bleachers or linen dealers attended to purchase, and nearly all the business of the trade was thus transacted.

By a return made to the Linen Board, in 1816, the following table is given of the value sold annually in the different counties of Ulster:—

Armagh	£353,600	
Tyrone	559,260	
Down	174,252	
Antrim	697,600	
Derry	176,160	
Donegal	26,910	
Cavan	119,600	
Monaghan	204,880	
Fermanagh	11,700	
		£2,323,962

And in the other provinces:—

Leinster.		
Meath	£1,300	
Louth	185,120	
King's County	27,040	
Longford	52,000	
		£265,460
Munster.		
Cork	£46,736	
Clare	2,080	
Limerick	3,640	
Kerry	10,400	
		£62,856
Connaught.		
Sligo	£31,200	
Mayo	81,640	
Galway	10,254	
Leitrim	4,680	£127,774
		£2,780,052

After the employment of machinery for spinning the yarn, the linen manufacture gradually ceased in the south and west, and became concentrated in the north. Except at Drogheda, and in small districts of Mayo and Cork, scarcely any linens are now made without the bounds of the northern province.

In 1725 machinery was first applied to the operations of washing, rubbing, and beetling linen, in the parish of Belfast. The only acid used in the process of bleaching, up to 1761, was buttermilk. In 1764, Dr. Ferguson, of Belfast, received from the Linen Board a premium of 300*l.* for the successful application of lime in the bleaching process. In 1770 he introduced the use of sulphuric acid; in 1780 potash was first used; and in 1795 chloride of lime was introduced.

The bleach-greens were much more numerous forty years ago than they are now; but at the present day they are much more extensive, and can do much more work, in consequence of the improvements in the process. Ten bleach-greens in County Antrim could be named, which turn out a larger quantity of linen than forty of the largest in 1790. The proprietors of these establishments either bleach linen for hire, are themselves manufacturers, bleaching and exporting their own fabrics, or are purchasers of brown linen, and export it when bleached.

The relative prices, at different periods, of some of the leading articles of linen, are given in the following table:—

Yard wide Family Linen, per yard.

	14°°	18°°	20°°	22°°	24°°
1805...	2/	3/4	4/4	5/11	10/6
1815...	2/	3/1	3/9	5/3	9/6
1820...	18*d.*	2/10	3/6	5/	9/6
1830...	17½*d.*	2/6	3/2	4/6	8/6
1835...	16½*d.*	2/1	2/10	4/2	6/
1845...	15*d.*	22*d.*	2/5	3/4	4/10
1850...	14*d.*	20*d.*	2/1	2/6	3/6

It is a very general impression in some parts of Ireland, that the Irish linen manufacture has greatly declined, since the expansion of the cotton manufacture, and the enormous extent to which its fabrics are used in all countries. That this impression is highly erroneous will be evident, from an examination of the amount of linen exported from Ireland at different periods:—

In 1710	Ireland	exported	1,688,574	yards linen.
1750	"	"	11,200,771	"
1775	"	"	21,502,000	"
1800	"	"	35,676,908	"
1820	"	"	43,613,218	"
1825	"	"	55,113,265	"
1835	"	"	60,916,592	"

There are no separate returns of the Irish export since that period; but as in 1849 there were exported from the United Kingdom 106,000,000 yards, being more than in any previous year, it may be assumed that Ireland furnished 75,000,000 of this. Adding the home sale, it may be calculated that the present make of Irish linens of all kinds is fully 110 to 120 millions of yards.

It is thus evident that there has been a steady progressive increase in the Irish linen trade during the last century, and in the present one up to this day. One cause of the erroneous impressions on this subject is, that the *direct* exports of linens from Ireland to foreign countries have nearly ceased, as almost all that are intended for the different markets of the globe are sent *viâ* Liverpool. Just as the Manchester manufacturer sends his cotton fabrics to that port, to be forwarded as part of assorted cargoes to their final destination, does the Irish linen manufacturer consult his own convenience and the frequent opportunities that arise from the immense carrying trade of that port.

The proportions in which linen fabrics are exported to different countries will be partly learnt from the following table of exports from Liverpool in 1849:

Linen exported to

	Packages.
United States of America	26,994
South America	24,745
West India Islands	15,602
British North America	2,436
Italy, Sicily, and Malta	2,545
Turkish possessions	1,144
Portugal and her possessions	717
Hayti	571
Spain	403
East Indies	347
China	182
Greece and Ionian Isles	161
Austria	134
Holland and her possessions	126
Manilla, 60; Cape of Good Hope, 33; France, 27; Russia, 18; Egypt, 18; Australia, 16 =	172
	75,708 packages.

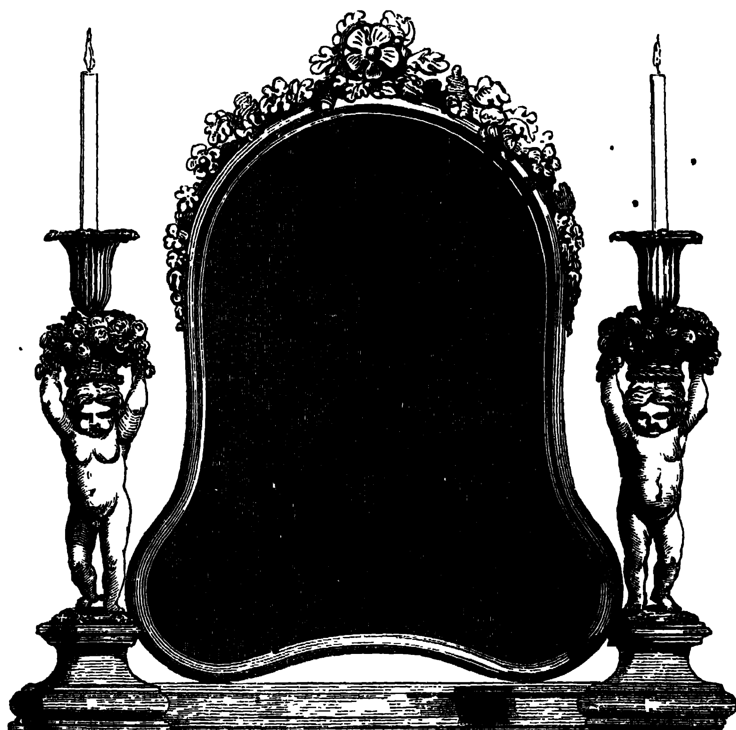
Much of the linens exported to the south of Europe go *viâ* Southampton.

(*To be continued.*)

WOOD SCULPTURE.

(Concluded from page 110.)

THE exquisite meaning and consistency displayed in the groupings of Gibbons are beyond those of any other master of his art; his trophies are all in character, whether they decorate the drawing-room, college, or library: although he confined himself to eight or ten varieties of flowers, they are of those which present the boldest form, and he never united two which did not bloom in the same season, avoiding an unnatural association of objects; he always placed the most fragile and delicate parts of his work in places beyond the reach of handling; they were thus made secure, and the bolder parts of the composition rendered the most salient. Not a stroke of his chisel was lost, or thrown away upon parts not destined to attract the eye, nor did he ever load



A TOILET GLASS, by ROGERS, for the Duchess of Sutherland.

his compositions with unnecessary enrichment. The masterly skill and handling of the weapons with which he overcame the stolid materials opposed to him, united to all the above considerations, have, doubtless, proved the true key to his success in the illustration of his ideas and contributed to render his compositions light, although bold and grand, as he seems so perfectly to have understood the value of his effects. One of the principal marks of distinction between the works of Gibbons and his contemporaries is in the manner of executing the ornamental foliage; while Gibbons always threw down the points of his leaves, thus giving a character of repose to the whole of his composition without detracting from its spirit, the Flemish carvers have generally thrown them up and have, sometimes, strangely contorted them, to the

prejudice of the general outline. An experienced eye can in a moment perceive the difference between a group by Vandermeulen, or his pupils abroad, and those carved by Gibbons, Selden, Watson, or our contemporary Rogers, in this country. Mowatt, a French sculptor, who worked after Gibbons, and whose freedom of touch, especially in the delineation of flowers, was most remarkable, deserves honourable mention. The pulpit in St. Paul's Cathedral was carved by him, and there are some fine works by his hand, now in Windsor Castle, consisting of some sculptured panels, friezes, and chimneypieces.

As an illustration of the decline of the art towards the middle of the 18th century, we have to point to Chippendale, a carver and cabinet-maker of the reign of George I., but the most eminent of that period in its practice. This artist attempted to unite the classical, yet natural, style of Gibbons with the scroll and peculiar taste of the French school in the time of Louis XV., which was an alteration and a yet lower fall from the style of Louis XIV. Chippendale published several folio volumes of designs for carved decoration, drawn by himself, which will shew his style, which was flat and little, with much labour bestowed on trifles. He is in a position to wood-sculptors, although in a minor degree, resembling that which Watteau takes in relation to the school of painters. Some of Chippendale's best examples are upon the bookcases in the Bodleian library, which are carved in mahogany at a time when that wood was costly; they are in the "flat surface" style, similar to that of the machine-carving of the present day. Several Flemish artists, whose peculiarities have been referred to, executed works in this country about the commencement of the reign of George III., but the whole of that reign exhibits a dead period in the history of the art. The state-coach of England, however, a fine piece of work, designed and carved by Joseph Wilton, the sculptor, for George III., forms an exception to the taste of which Adam was the exponent, the "Perriwig School" both of sculptors and painters of the period, and which it was reserved for the age of Reynolds to chase away.

At this period Demontreuil was enriching the cabinets of France with his productions. No imitator of nature, in any material, ever followed her so closely as this artist; we have no clue to the mode in which he arrived at the wonderful perfection which he exhibited in his art, but having been introduced at court, he was frequently employed by Marie Antoinette and the French nobility, upon subjects destined to adorn their cabinets. He excelled in the representation of small groups of birds and animals: in the former not a feather, in the latter not a hair was forgotten; these *bijoux*, the trinkets of the art—they are nothing more—are now very scarce and are much prized.

No name stands between those of Gibbons and Rogers in the history of the grand, or architectural style of the art. Mr. Rogers was, at an early age, instructed in his profession by D. M'Lauchlan, of Printing House Square: the carvers of the period, as those who worked in St. Paul's, were accustomed to come to their occupations wearing cocked hats and swords, the considered privilege of the artist; old Maslin, the gilder, always appeared in that costume. Rogers was yet young in his apprenticeship, and scarcely knew how to hold the chisel, when he accidentally saw the glorious reredos, by Gibbons, in the church of St. James, Piccadilly, and narrates that he determined from that moment, in spite of difficulties, to raise "carving" from its low condition to the perfection it once enjoyed, or to spend his life in the attempt. One of his fellow-workmen, (who had served the whole of his apprenticeship with the master sculptor employed on the restoration of "Burleigh,") an old man of the name of Birbeck, exceedingly well-informed and somewhat of an enthusiast, encouraged him still more by recounting anedotes of GRINLING GIBBONS, and shewing him other specimens of this artist's work, scattered through the metropolis. Richard Birbeck, of Stamford, was a great drunkard and a staunch politician, yet a clever workman, and an acquaintance of Stothard and his coterie; he frequently used to relate amusing stories illustrative of the state of art and society in his younger days,—how Mr. Justice Short played at *cocking* with Stothard and himself; how Stothard quarrelled with the Marquis of Exeter's beautiful cook, and introduced her in one of his paintings, on the

staircase, as writhing in the infernal regions. Birbeck, when young, knew several of the old men who had been employed, either as wood or stone sculptors, in the enrichment of St. Paul's cathedral, and was able to point out the performances of the English, French, and Dutch carvers, between whose works the eye, when called to the subject, may soon detect a difference. Rogers had no small difficulties to contend with in establishing a taste for the grander style of his art, and in training men to carry out his ideas. The character of the work executed at this period was exceedingly low, carvings, devoid of art or taste, were manufactured by the "gross," for cornices, mirrors, and other species of house furniture executed then by the hand, as they now are by machinery.

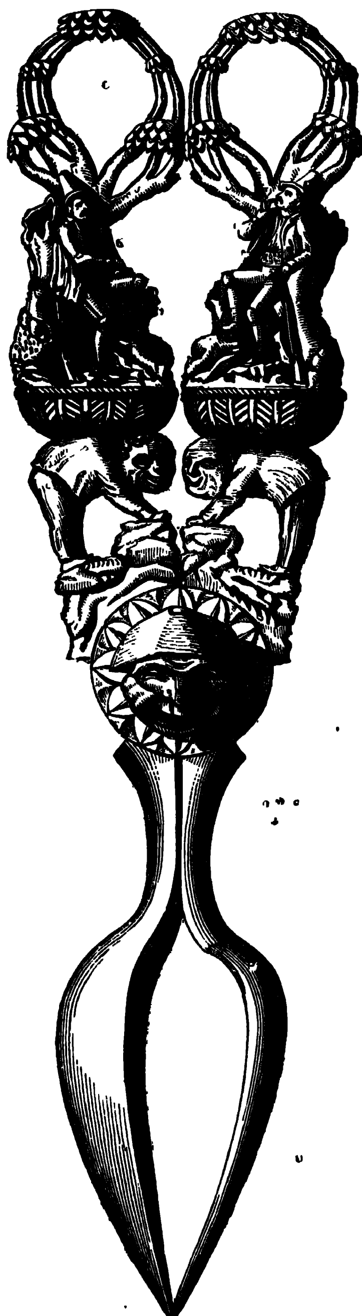
It is difficult to enumerate the choicest specimens of decorations in wood-sculpture from the hand of Rogers; but some of his works are to be found at the Pavilion at Brighton and Chatsworth, in borders for pictures and panels, &c. At Stafford House the blue room is decorated by him; the whole of the dining room at Wentworth House, and many other works in borders, are his. In the house of the Prince of Moskowa, in the Rue Lafitte, Paris, the whole of the dining-room is decorated by Rogers; and we must pay a high compliment to the taste which led to the selection of the artist. Rogers likewise adorned the three suites of rooms at Kensington, for his Royal Highness the late Duke of Sussex; amongst other things the doors of the new dining-room and all the enrichments of the walls in the library, and the private library, are his. A few years since, the *Court Journal* gave a description and engravings of these works, and attributed them all, such is their excellence, to Grinling Gibbons. Perhaps his best work is the decoration of the church of St. Mary-at-Hill. We have him yet amongst us; let those who cherish a feeling for, and can appreciate, the beauties and utility of the art which he professes, seek the artist, even for their own sake, while there is yet time.



A Carved Candlestick, enriched with Arabesques.

In 1813 there were about 60 wood-carvers in London; at present there are about 70 ornamental wood-sculptors, about 200 wood-carvers in all.

In 1800 the wages paid to good workmen were from 4*s.* 6*d.* to 5*s.* a-day; at present from 5*s.* to 6*s.* is the average rate of wages.



A Salad Spoon and Fork, Swiss manufacture.

Is it because the architect will no longer work *with* the artist, as did the artistic Wren with the artist Gibbons, that Mr. Rogers, after he had been designated by the Royal Commissioners, "as the person best qualified to be intrusted with those parts of the woodwork of the House of Lords in which great richness of effect and delicacy of execution are required,"* was politely told by Mr. Barry that "there was nothing worthy the exercise of his talent in the House of Lords?"† or was it intended to be inferred that a secular edifice should exhibit ecclesiastical symbolism by an advocate of the quaint and fanatical modern ideas of the pre-Raffaelle school? was he neglected from any impression that, "being a Protestant, Rogers, therefore, could not carve a head of Christ?" Have not the Commissioners power over their nominees upon these works, or do they prefer to see mechanical work expensively employed in opposition to their recommendation? Their good faith towards the public and goodwill towards the competitors is evident from their report, and the public are interested that no one should be allowed to stifle a superior reputation gained by well-tried and well-known talent.

Much carving for cornices, beading, and other work is cut by machinery, but it is generally of a low-relief, surface-ornamentation.

Many carvings from Switzerland, which are well known, find their way into this country. They consist both of objects of utility and of ornament, or curiosity, and shew considerable ingenuity attained by the shepherd-peasants and others who are employed upon these works, chiefly as a secondary occupation for filling-up idle time. Workboxes, work-tables, baskets of various descriptions, paper-knives, writing cabinets and desks, bread and trinket trays, salad-spoons and forks (an engraving of one of which we have given), pickle-spoons, and table napkin rings, are of the most useful objects imported. Swiss cottages, animals, and figures, are among the objects of curiosity; many of these carvings are of some pretension, particularly some translations from the bronze casts of Italian works,

* Third Report.

† *Spectator*, 13th August, 1845.

which we have seen admirably rendered. The principal place where these articles are made is Groeden, Grisons, on the borders of the Tyrol; the canton of Berne also furnishes a large amount of them for export; the tools used are of the simplest kind, such as small knives, chisels, &c. The woods employed are,—for white, the spindle-tree and sycamore; for hard, yew; for brown, cherry; for dark, walnut; for yellow, box: as Messrs. Evans and Son, of Newgate Street, and other importers, send these different objects of ornament, or utility, into most towns in the kingdom, it might form a branch of industry worthy of pursuit even in our own land, if employed upon the humble class of objects in order to utilize spare time, as in Switzerland.

The increasing application of the art to objects of daily use, such as the bread-platters, knife-handles, and tankard stands, introduced by Mr. John Bell's Art-Manufactures, and now become a staple article of trade in Sheffield, encourages the prospect of a revival.

With the exception we have previously referred to, the art offers a dreary spectacle in our own age. It has, from numerous causes, gradually declined, until it can now scarcely be said to hold a place in the fine arts of the country, although both eminently ornamental and useful. At the beginning of the century there were about 13 master carvers in London, and the number of men employed by them amounted to between 60 and 70. Carvers, thus working together in masses, superintended by the artistic eye of a master, were able to improve themselves and each other. But, from want of encouragement, each master, one by one, disappeared, until "the last and best of that race" only remains. Men have not the opportunities, therefore, that they once possessed for cultivating their powers and bringing them to maturity. Another cause exists in the short leases now given for houses. We have only a life-interest in art, and where, once, pride was felt by a possessor in enriching the newels and balustrades of his staircase, the panels of his halls, the doors, and cornices of the ceilings of his mansion, he now leaves them to the hand of the whitewasher or grainer. If he cover his walls it is by means of pictures alone, which he can remove at will upon the shortest notice. The iron-hand of machinery, likewise, robs wood-carving of its spirited and poetic qualities, and every means but the right is resorted to for discovering the design which lies hidden within the block, upon which invention after invention has been exhausted. One individual burns his fingers with "fire carving," another cuts them with a "patent centre-bit," a third forces the material into the region of plastic art by the agency of a matrix; let us hope that the 19th century, proud of the laurels gained by the successful encouragement and advancement of all the sister arts, will not prove ungrateful for the legacies of the past, nor regardless for the present and future developement of wood-sculpture.

PAINTING UPON GLASS.

(Concluded from p. 82.)

If the peculiar systems of schools, which from one period to another in the progress of the practice of this art arose, ended by throwing disorder into the ideas of its professors, it was not to be expected that the principles which should regulate the taste of the multitude, or even of the *dilettante*, should have remained healthy, and that their judgment should be given without ignorance or prejudice. The storied panes of the middle ages had been judged by the mass in precise proportion to the amount of instruction and taste it had gathered in these matters from the professors and promulgators of the art. Simplicity chiefly had reigned in the arrangements, and had produced the effects they saw spread before them, and they judged accordingly: they thus appreciated, in a most healthy manner, the magical effects of this peculiar decoration, in which, while the richest colours were employed and the brightest were contrasted, the whole became chastened to the eye by the peculiar phenomena produced by the passage of the transmitted light through them, by which the conical forms of the rays, mingling the colours together, blend them before they reach the eye of the observer, and thus harmonise the whole.

It is for this reason also that the introduction of mural painting, in edifices of certain dimensions, is not incompatible with the presence of painted glass windows. Degradation of light and shade alone were, therefore, principally wanted, in connexion with brilliant and well-arranged colouring of different degrees, when joined with design, to ensure success in the practice of the art. But when amateurs and, *proh pudor!* artists, charmed and preoccupied with the effects and resources of oil-painting, insisted upon carrying the same gradations of demi-tint and effects of aërial perspective, which proved of indispensable utility upon the panel or canvass, into the practice of the sister art, they prepared the way to its degradation by exacting an execution opposed to the first principles of its existence. The utmost necessity exists that the tints of colour in window decoration should be maintained strong and decided, because of the flood of light which is poured through them; an opposite treatment weakens the power of these tints, and the tone of the whole composition is impoverished; introduce the system of gradation of demi-tint, through grey up to the purest white, as in an oil-painting, and the flood of light, choosing the most luminous, or white, parts of the composition, will force itself a passage and precipitate itself through these places, left open to it through absence of colour, thus completely neutralising the local colours, and rendering the shadows black. The modelling is thus entirely lost at a short distance through this physical law, the light effaces all but the strongest outlines, either of the "leading" or design.

Now the treatment of a subject by the older masters of the art, before these heterodox notions had unfortunately prevailed, was in direct opposition to the system of white lights, grey demi-tints, or the studied aërial-perspective backgrounds of a later period, also principally composed of cold greys and white lights. Claude of Marseilles, who founded a school of glass-painting in Italy, and was in 1513 at the head of the works which were adorning the papal palace at Rome, and the yet more famous William of Marseilles, the Dominican friar, born in 1475, called by Bramante to finish the works commenced by Claude, had followed a totally opposite course, and of their practice we have an account by Vasari, pupil and historian of the latter. Vasari remarks that these painters adopted an admirable arrangement of colours in glass-painting, an art then new to the Italians; that they were accustomed to employ all their most forcible colours upon figures and objects in the foreground, while the *darker* colours were used upon the grounds. We thus arrive at the secret of the success of the glass-painters of the older periods; no extent of white glass was allowed, but upon points only where the most intense light was required, and with jealousy even then; no grey demi-tints interfered with the richness of the colouring; the various tints of the stained glass were shaded with a monochrome, which was transparent itself and was removed towards the lights, while the process of enamelled colouring, in as clear a glass as possible, was employed to deepen the hues of colour where required. Thus the three processes were united, in the finest period of the history of the art, to form a painting, and every resource was brought forward. The choice of brilliant colour, by proper arrangement, in the first place had to be satisfied, composition being included in this; in the second, the stained glass was selected of as luminous transparency as possible. Vasari tells us, in relation to this, that when clear glass is shaded, in the process of painting, the light is not totally lost, but that it finds its way through the shadows, and that this is requisite for a fine production; and that colour should not be so loaded as to produce an appearance of opacity: he instances the Venetian coloured glass as unfit for this purpose; being dark in itself and rendered darker by shadow, it lost transparency. Another point upon which the artists of this period excelled, and to which attention should be called, was the careful study which they gave to the "leading," and the skill with which they disposed the plumbing, either in the folds of draperies, the articulations, or the outlines of figures,—this was often so gracefully done that it was quite unobserved in a large composition, as it had all the elegance of the purest outline, and thus served a double purpose. These windows were then "armed" or protected by iron bars, placed at some distance outside, from which points projected, to support the leading, or openings were pierced to

receive points protruding from the window at proper places, and by which means they acquired support. Since this period even this simple branch of the art has retrograded rather than advanced, the *plumber and glazier* of the 19th century, although he inherits the title, employs none of the art for which his predecessors were distinguished.

The manufacture of the glass, coloured in the mass, or metal, for the purpose of window decoration, was carefully attended to at this period; many of the processes employed have been already alluded to in the former part of this paper. In the present day many improvements have been made in this branch of industry of which the glass-painter receives the advantage. Glass is rendered purple by the precipitate of cassius, 1 part of which will colour 1000 of glass. If a scarlet hue is required, 1-6th of a part of white oxide of antimony is added. The chloride, or the sulphuret, of gold will likewise produce a purple tint. Red is obtained from copper. Sulphuret of copper and oxide of iron are added to the glass, the copper is then de-oxidised by bi-tartrate of potash, or any other substance yielding carbon.

Carmine is produced by protoxide of copper alone; a darker red, by three-parts of iron scales to one of copper. These colours from copper are to be worked immediately, as the long-continued action of heat renders them almost black and opaque; it is on this account that these colours are generally "flashed," so as to present an extremely thin and transparent surface of the coloured upon a white glass. Dr. Englehardt states, that when protoxide of tin is used, to obtain the copper in the state of a protoxide, the red continues fine during the whole process,—and that, then, he never was forced to use de-oxidising substances, and that he found oxide of tin in all ancient specimens of glass of this colour.

This "flashing" was employed by the ancients in all the painted windows of the middle ages, the red coating being ground away, by means of emery-powder, in the places required. The invention of this is ascribed to Van Eyck, with, perhaps, as much truth as is the invention of painting in oil.

Englehardt likewise has produced a fine scarlet colour from 25 lb. of frit, ½ lb. protoxide of tin, 1½ oz. of levigated protoxide of iron; when these have been combined and the glass has become clear, he adds 1½ oz. protoxide of copper.

Yellow is produced either by sulphuret of antimony, antimonite of lead, or chloride of silver.

Blue, by black oxide of cobalt.

Violet, by peroxide of manganese, varied by cobalt.

Green, either by oxide of copper, oxide of chromium, or a mixture of antimonite of lead with oxide of cobalt.

Black, by oxide of manganese, oxide of iron, oxide of copper, and oxide of cobalt in combination with each other.

White and opaque, or opalescent, by stannic acid, or phosphate of lime.

The process of sheet-glass manufacture has been much modified and improved by the progress of modern chemistry, lime, potash, or soda, are still used, in order to facilitate fusion; an improvement might possibly be effected by the substitution of zinc for lead as a flux, and the adoption of the ancient mode of the divided and flattened cylinder, in order to obtain a plate of glass, might be advantageously substituted for the present mode of producing window glass, viz., the rotation of the sphere, of which the top has been opened, until it has acquired the form of a plate,—a quick and easy process, but which leaves numberless circular lines, or undulations, in the plate, which interfere somewhat with the uniform tint required. But we should never conclude our subject did we enter into the numerous details which, assembled, form the whole theory of the art: these belong to the practice, and to its votaries we must leave the work of its perfect regeneration.

It has been a much-vexed question, whether the amateurs of the art have not, in measure, contributed to its decadence, by an excessive encouragement of small painted windows, suitable as ornaments to the cabinet, library, or other domestic apartments, and this taste, therefore, has been viewed, we

think, with an unnecessary and mistaken jealousy, although it necessitates a practice quite different from that we have been examining, and with which it should not be confounded.

By this process the colours are enamelled upon the white glass, and it is a branch which may be considered quite separately from the grander or monumental style of the art; it presents the greatest difficulties and no slight knowledge of the composition of the materials employed, in order to arrive at satisfactory results. These decorations are generally executed upon a single plate or sheet of glass; they are rarely leaded, and the process followed in painting is precisely that of the enameller upon porcelain, and, in many instances, the colours are the same. Although inapplicable to the production of windows of large space, or for great areas, it is of infinite value for those of smaller dimensions, viewed more closely the beauties in composition and miniature execution can be clearly appreciated; the colours now employed are as solid as those used in the *grisaille* method of the 16th and 17th centuries, but its greater difficulties of execution have raised it many enemies. The Central School of Design, however, professes to teach the methods employed in this branch of the art, which is waiting the often unemployed talents of our water-colour artists, who might, in many cases, successfully devote their time to this variety of glass-painting.

The chief quality which the vitrifiable colours should possess, after that of durability, is fusibility at a given temperature, so that the expansibility of the colours should not be less than that of the ground upon which they are applied; they should also possess, after fusion, a perfectly vitrified appearance, whether transparent or opaque, a proper degree of hardness and resistance to the action of water or the weather; their fusibility should be greater than that of the glass to be painted: this is why an alkaline silicate, alone, is preferable, as the material of the glass intended to receive enamelled colouring; lead softens the glass too much when employed as a flux, and leads to many difficulties. We have proposed zinc in its place, and it is an experiment which has, for other purposes, succeeded well,—the qualities it gives to glass appear peculiarly applicable to this manufacture. Their duration is generally in ratio to their hardness. Should too great difference exist in expansibility, the enamels or pigments are liable to crack and separate from the ground. Fluxes are therefore used, which, while they do not act upon the colouring bases employed, are adapted to the nature of the composition of the vitreous ground. These fluxes are principally composed of silica, peroxide of lead, and calcined borax, and their hardness increases in proportion to the quantity of silica employed in this boro-silicate of lead, while, by increasing the quantity of the per-oxide of lead, additional expansion is given to the pigment to equal that of the glass. By separating the particles of the colouring bases, oxide of lead likewise facilitates their fusion. Borate of soda (borax) being fusible at a lower temperature than the silicate of potash, formerly used, and potash becoming decomposed at a high temperature, has caused the introduction of the borate to supersede the latter salt,—the saturation with the flux likewise not being so great, less liability of change and greater hardness are acquired together. Mixtures of pigments should be as much as possible avoided; as they often mutually destroy each other, it is better to fuse one colour over another, should a combination be thought advisable. As the properties of pigments are greatly changed by the various substances employed in colouring, the fluxes must be modified in order to give a proper degree of expansion:—

	Silica.	Perox. of lead.	Borax.
A flux for the blueish violet and light purple, produced from protochloride of tin and nitro-muriate of gold, is composed of...	1 part	... 4 parts	... —
" violet red, of id.	2	... 4	... 1 part
" dark purple, of gold } " pink, of gold and carbonate of silver } " all greens } " blues from cobalt }	1	... 2	... 1

	Silica	Perox of lead.	Borax
A flux for yellow from antimonite of zinc......... / " greys from iridium .... / " chrome brown .... / " composed blacks	2	... 5	... 1
" browns and reds from peroxide of iron... / " browns from zincate of iron .... / " black from iridium	3	...12	... 1
" dark yellow, antimonite of zinc and iron	2	... 6	... 1
" yellow from antimony and zincate of lead / " " uranium .... / " orange, uranium	1	... 8	... —
" dark yellow, peroxide and oxide of zinc, with 4½ parts antimonite of potash ...	2½	...20	... —

These pigments are of two different natures, one being uncombined with the flux, but held simply in suspension by it, the other combines with the flux during vitrification. The fluxes should, in the first instance, therefore, merely isolate the particles of the simple pigments without producing any action upon them; in the second, or combined colours, the flux must so act upon the pigment that its colour may be made evident; in the latter instance the boro-silicic acids predominate; as much flux should be used as possible, so that the colour be not injured, they should be fused together at a higher temperature and kept under the influence of heat for as short a time as possible. The manufacture of vitrifiable pigments has lately received that attention in England, Germany, and France, which the importance of the subject demands, and the practice of the art promises to be greatly benefited by the liberal communication which some of the scientific German chemists have afforded. We allude especially to the excellent papers upon this subject by Dr. Wæchter, in which results of his experiments are frankly presented to the artist. These papers, which leave little to be desired upon this subject, are to be seen in the *Chemical Gazette*, February and March 1849, and have been already noticed by us.

There is unfortunately much trouble in procuring good colours for the purposes of glass-painting, and our glass-painters of eminence consequently are forced to make them for themselves, which in the present times of divided labour is of disadvantage to them. The Government would do well to consider, in connexion with our Central School of Design, a branch similar to that instituted at Sevrès for these purposes, where experiments with a view to improvement might not be conducted under the guidance of an experienced chemist, who is also conversant with the wants and practice of the artist.

Different media are employed in the process of painting, viz., water, oil of lavender, or aspic, and oil of turpentine, a small quantity of sugar-candy and borax should be mixed with the water when that vehicle is employed, for the purpose of giving a body to it, and the essential oils are inspissated by evaporation over a fire, or in the sun. Pointed pencils of sable and flat brushes of fitch and badger hair are used, with flat brushes of soft hog's hair for the purpose of rubbing out the colour towards the lights.

The moufle and furnace are too well known to need description, fire-proof earthenware tablets, or shelves, covered with a wash of Spanish white mixed with water, instead of the powdered lime, formerly used, are now generally employed in the ovens to form a bed during the firing of the enamelled painted glass.

But without excluding other branches of glass-painting from a proper consideration, we turn with predilection to the monumental style as calculated even to adorn our domestic architecture in a pre-eminent degree, should the systems once followed be again recognised as the foundation of an art, of which the utility is unquestioned, the developement must be immense, the pursuit attractive, the fame legitimate, and the recompense great. It is an art which has in a measure ennobled Jean Cousin, Bernard de Palissy, Jaques de Paroy, Albert Durer, Van Eyck, the father of Van Dyck, Gerard Dow, and, in the present time, boasts as votaries the names of Williment and Wilmshurst.

MOVEMENTS FOR "PATENT" REFORM.

THE question of freeing manufacturing invention from the incubus of the present Patent Laws now rests wholly with manufacturers and inventors themselves, and we believe that precisely as they express their wishes to Government, so will they find it ready and willing to afford them relief. Indeed, it is currently reported among members of the Legislature, that the Government are now only awaiting the expression of public wishes to declare its own intentions. It is, therefore, time to give this expression, and those who are earnest in patent reform must forthwith proceed to exert themselves. The practical steps to be taken for expressing public opinion in due constitutional form are somewhat as follows. The Local Committees formed for promoting the Exhibition, as having charge over the interests of inventors who may exhibit, should be the first to move. They should forthwith prepare a humble memorial to the Queen, which must be sent or taken to Sir G. Grey, at the Home Office, in Whitehall. It may run somewhat thus:—

"TO THE QUEEN'S MOST EXCELLENT MAJESTY.

"We, your Majesty's loyal and faithful subjects, assembled as a Local Committee at . . . . , for assisting the Commissioners appointed by your Majesty to promote the Exhibition of the Works of Industry of all Nations in 1851, humbly represent to your Majesty, that the success of the said Exhibition, as respects the display of New Manufactures and Inventions, is likely to be seriously discouraged by the state of the Law of Patents for Inventions, as it at present exists.

"We humbly submit that this law is, that whoever shews, and thereby publishes, any New Manufacture or Invention before he has secured the privilege to do so by your Majesty's royal letters patent, which cost 300*l*. for the United Kingdom, loses any rights he might otherwise acquire by virtue of such letters patent.

"That the declaration which your Majesty's Commissioners made, that Designs and Inventions exhibited would be protected from piracy, affords a guarantee to the world that the idea could never have been entertained to invite inventors, foreigners, and the subjects of your Majesty, especially those who are poor and in humble circumstances, to display the works of their ingenuity, and subject them to the loss of their rights of property in accepting the invitation.

"Such, however, we believe to be the state of the present Patent Law: and we humbly pray your Majesty to take such measures as shall seem best to your Royal wisdom to cause the same to be altered, whereby inventors may not be discouraged from sending works to the Exhibition, and the British nation stand clear before the world."

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A notice of the due presentation of this memorial to Her Majesty will be published in the *Gazette*. It would be courteous and proper to send a copy of it to the Board of Trade, which has official charge of the subject, for its information. The next proceeding will be to prepare petitions to both Houses of Parliament. With such variations as local circumstances may render necessary the following is a form which may be found useful:—

"TO THE RIGHT HONOURABLE THE LORDS SPIRITUAL AND TEMPORAL, [OR] COMMONS IN PARLIAMENT ASSEMBLED.

"The humble petition of . . . . , humbly sheweth,

"That, according to the existing Law of Patents for Inventions, the proprietor of any New Manufacture or Invention, who, at the invitation of Her Majesty's Commissioners for the Exhibition of 1851, shall exhibit the same in the said Exhibition, will forfeit his rights of property, unless he shall have previously obtained letters patent and paid heavy fees, which range from 100*l*. to 300*l*. for each article.

"That to exact the payment of such fees from foreigners invited as guests would be a discredit to the nation, and from humble native inventors is impolitic and unjust.

"That if the existing Law of Patents for Invention be maintained, the Exhibition will be seriously discouraged.

"Your petitioners, therefore, pray your Honourable House to alter the Patent Law and abolish the heavy fees, so that New Manufactures and Inventions may be freely exhibited without entailing penalties on the Exhibitor of them for doing so, and to pass a measure of relief similar to that which was passed by the House of Lords in the last session of Parliament, but which was altered by your [in petition to the Lords, instead of "your" say "Commons"] Honourable House."

The petitions may be written out on plain foolscap paper. They should be ready before 1st February, so as to be presented to Parliament at its opening on the 4th February. The Exhibition opens on 1st May, and there is no time to be lost if inventive Exhibitors are not to be pillaged. The substance of these documents will serve for memorials from individuals, and also from workmen. As all the best inventions have really sprung from the workshop, it would be well if the men in all large factories presented their own petitions.

We believe the Committee of the Society of Arts has prepared the heads of a Bill, which will be sent to the Board of Trade. This is based upon resolutions which have been passed at six several meetings attended by the Right Hon. T. Milner Gibson, M.P., H. T. Hope, Esq., M.P.; Professors L. Playfair, B. Woodcroft, Solly, Royle; Messrs. H. Cole, G. Brace, J. H. Elliott, Prosser, Wyndham Harding, Highton, Newall, A. Symonds, &c. The principal are as follows:—

"That inventors, designers, &c., ought not to be subjected to any other expenses than such as may be absolutely necessary to secure to them the protection of their inventions. That registration of inventions shall be obtainable for a period of one year on payment of 5*l*., and shall be renewable for four periods of five years each, on payment of 10*l*. at the first renewal, of 20*l*. at second renewal, of 50*l*. at third renewal, and 100*l*. at fourth renewal. (The object of the increased sums being to cause useless registrations to be given up.) That the surplus profits, after paying office expenses and compensation, shall be directly applied to some public purpose connected with invention, but not carried to the Consolidated Fund. That registration shall extend to the United Kingdom of Great Britain and Ireland, and the Channel Islands. That registration be considered merely as a record of claims, and not as any determination of rights between parties. That everything in respect of which a patent may now be granted may be registered. That inasmuch as, contrary to expectation, very little litigation has been created by the rights conferred by the Designs Act of 1842, 1843, this Committee is of opinion, that a fair trial should be given to the working of the proposed system of registration of inventions before any special tribunal to determine inventive rights is substituted for the existing tribunals. That it should be permitted to commence actions for infringement of the rights of inventors in the County Courts. That any tribunal before which proceedings are commenced shall have power to refer any case for report and certificate to the registrar, assisted by competent and scientific persons. That upon the illegality of the registration being established by the judgment or order of any competent tribunal, the registration be cancelled. That the mode and procedure of registration be regulated by the Board of Trade, subject to a report to Parliament. That there shall be only one office for the transaction of business connected with the registration of inventions, and the payment of fees in respect thereof. That every person desiring to register an invention shall submit two copies of the specification of his claim, accompanied, in every case where it is possible, by descriptive drawings. That it shall be competent to an inventor to make disclaimers and to rectify errors in the specification at any period. That a collection of all the specifications be made, calendared, and indexed, and deposited for public information in the British Museum. That it is highly desirable that such a collection should be printed and published. That an annual report of all specifications registered, with proper indices and calendars, be laid before Parliament."

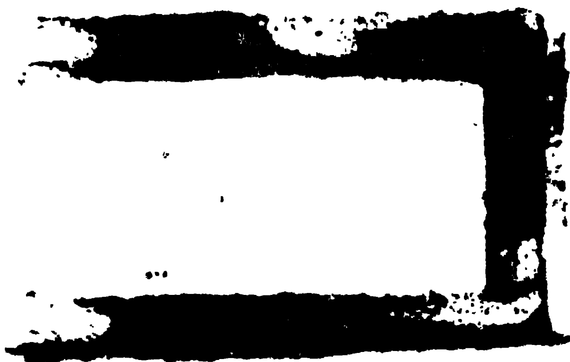
Mr. Webster, the patent lawyer, who is chiefly indebted for his practice to patentees and inventors, has put forth a little Bill of reform, reducing the cost to 130*l*., to be paid at the outset, and the 35 stages to some 25 stages or so, garnished with some suggestions calculated to encourage litigation. The following is a sample of the philosophy and politeness which he issues from "Pump Court:"—

"No person ought to be stopped in the career of invention. Letters patent for inventions are a species of lottery; it is not for the interest of inventors or of the public that all checks should be removed, and that the temptation should be increased by increasing the facilities for gambling therein."

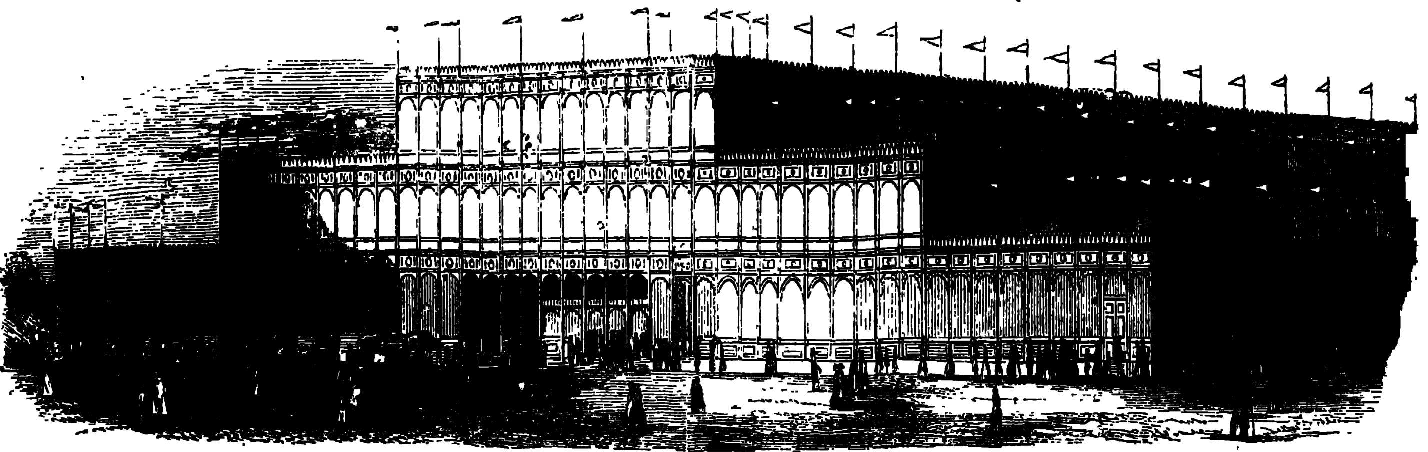
Well may the *Times*, alluding to Mr. Webster's proposal, declare, "That a more sweeping change is necessary." Besides South London, we hear Birmingham, Manchester (see "Notices"), and Belfast, are all in motion.

PRINTED FLANNEL.

At this period of chilliness, we think our readers will be disposed to sympathise with the renewed consideration of a fabric especially suitable to the season. In a previous number (p. 105), we gave two examples of a full deep-toned and well-covered flannel admirably printed by Mr. Swaisland, and we have now selected for the subject of a few remarks one in which the ground is *light* rather than dark, printed by we know not whom, but no less creditable for its correct design than those we lately spoke of. In this instance, the designer has taken an old type, but treated it with some novelty. The public is so accustomed to the pine form, and its associations with Indian origin and early success are so strong, that any manufacturer is sure of the patronage of large numbers out of pure regard for the old friendly shape. Without depreciating it, we should like to see a gentle attempt made to devise more varied generic shapes for diaper treatments: still we always welcome this old familiar friend. We are glad to observe that the designer in this *print* has not attempted *any imitation of a woven effect*, but has trusted to rich masses of colour skilfully



combined, not too imitative, and yet sufficiently suggestive of nature. What is here done on a limited scale proves that this principle of treatment is a key to a new style, if any one would be venturesome enough to use it, and we would especially direct the attention of designers to it. We may also say to the student, "This pattern affords suggestions which you would do well to pursue. As one lesson, consider the well-balanced quantities and the general diapered arrangement; take these as a basis, and merely alter the pine forms, preserving the same arrangements of colour. As another lesson, take the new forms and modify the arrangements of colour and the general quantities of them." To revert to the consumer, we remark that this pattern would be effective and tasteful, whether worn in folds as in a gown, or more flatly as in a shawl; yet it is but a simple adaptation of the old pine with full-toned harmonies, well and equally distributed over the surface.



BUILDING IN COURSE OF ERECTION

EXHIBITION OF 1851: MONTHLY REPORT OF PROGRESS.

It was a gratifying sight to see the Queen in the midst of the workmen at the Great Building in Hyde Park on the morning of the 23d December, venturing on the loose planks to examine every detail—sawing-machines, glazing-tents, painting-machines. Her Majesty appeared unexpectedly with the Prince as early as eleven, two or three of the Commissioners and some of the Executive only awaiting her arrival.

The *building* itself, to the surprise of every one, is nearly completed. It was only on the 26th September that the first column was fixed, and the last one of some 2500 would have been fixed before the 31st, if the Commissioners had not added to the original numbers. It may be expected that the building will be perfectly ready to receive goods by the end of January.

The past has been a busy month over the whole country, and the difficult duty of *allotting space* among the Exhibitors seems to have been satisfactorily performed. The task has taken somewhat longer time to execute than was expected, and it was not until the 26th December that the Metropolitan Commissioners sent in the vouchers for the metropolis. They appear to have done their work admirably and effectively, and to have spared neither time, nor energy, nor self-devotion.

Forms for the preparation of the *Catalogue* are now being sent to every Exhibitor. They are made out so as to suit each Section, and it is requested that they may be returned on or before 31st January.

The arrangements for *Registering Designs* are now completed. There will be no fees taken for designs exhibited; but for the details we refer the reader to the official announcement which we have inserted at the end of the Journal.

The next step, and one of chief importance, is the *arrangement* of the articles in the building, the principle of which, we believe, is now finally determined on. It might seem, at first sight, that the arrangement of the whole should be by classes, according to their nature, but a little consideration will prove, not only that this would be impossible, but that it would be very inexpedient. If a philosophical classification were adopted at all, it is obvious that it would be useless if not carried out perfectly. To sort out and arrange the products of the world, covering twenty acres—to take silk-shawls or silver teapots, not only from every nation but from every exhibitor, and place them side by side, and to do this in less than two months, in a space already filled, was found, we understand, to be a work the performance of which was wholly beyond any human power to guarantee. Even the comparatively moderate contents of the British Museum have taken years to put into philosophical arrangement. Moreover, instead of getting the assistance of every one, every one would have been extremely dissatisfied and hostile. Indeed both foreign nations and English exhibitors from the first have expressed urgently the wish that there should be as little subdivision of their articles as possible, and that exhibitors' productions should not be separated. There is a still further reason against a philosophical arrangement as the basis, which is, that when carried to an extreme it defeats its object. Comparison and juxtaposition are impossible if the quantity is beyond a certain amount. There are no advantages of juxta position in the first and last foot of 5000 superficial feet of silk. But it is not necessary to discuss this question further, as it is decided that the basis of the arrangement shall be geographical, and that the philosophical classification shall be secondary and afterwards carried as far as may be found possible.

If the reader will turn to page 53 (vol. iv.), he will find a ground-plan of the Building. It will be observed that the transept is in the centre of the oblong which runs from east to west. On the west side of the transept will be grouped the productions of the United Kingdom and the British Colonies. The productions of the United Kingdom will be classified into thirty divisions, nearly the same as we gave at page 112. The same arrangement will be

adopted for the Colonies and for India as far as may be found practicable, but its extent will necessarily be regulated by time.

The productions of foreign countries will be grouped geographically *eastward* of the transept — except *machinery in motion*, which, on account of the source of motive power, must be placed at the extreme *west end* of the Building. The productions of each country will be arranged together and classified by each nation as far as practicable in the thirty classes already adopted for the United Kingdom.

As a general rule machinery will be placed at the *north* side, and raw materials and produce brought to the *south* side of the Building. The intermediate parts being occupied by manufactures and fine arts.

There is hardly any choice in respect of *light*, which is nearly equal, and the same in all parts of the Building. The *south* side, as well as the roof of the Building, both in the *north* and *south* sides, will be covered with canvass. The upper part of the *north* side will not be covered.

Exhibitors will be free to arrange their own goods and prepare their stalls as they may think fit, subject only to such general rules as shall be conducive to the interest of all parties. The stalls may be of any height, the counters of any width, provided that the proper passages are kept. We believe the rule will be somewhat as follows :—

Areas of *twenty-four* feet, or *forty-eight* feet, or perhaps *seventy-two* feet, running from *north* to *south*, may be arranged according to the wishes of the exhibitors ; provided always, that in each area of *twenty-four* feet there shall be at least *one* passage of *eight* feet, running from *north* to *south*, or *two* passages of not less than *five* feet each ; and that no communications from *east* to *west* shall be established between these passages beyond a distance of *forty-eight* feet.

The floor and counter spaces being of a convenient length, to be regulated by circumstances, the width of them may vary from *three* to *eight* feet. The height of the counters will be generally about *two* feet *six* inches.

The wall or hanging space will be obtained, either with or without counter in connexion, between the columns running from *north* to *south*. The wall or partition space, if required to be solid, may be built up by Exhibitors to any desired height. The hanging space may be obtained by suspending lines between the columns and from the girders in the galleries, if for light goods.

The wall or hanging spaces may be of any height under *forty* feet, and experiments in the Building have shewn that it is desirable that hanging fabrics should not be of less than *twenty* feet, although many classes of textile fabrics, such as silks, will be much less perhaps.

We shall give further details of these arrangements when they are more developed.

ELECTRO-SILVER-PLATED TEA AND COFFEE SERVICE, manufactured by Messrs. Dixon, of Sheffield.

WE are enabled to compliment Messrs. Dixon on the appropriate design which they have here produced. The proper treatment of a lustrous metallic surface, which is specially adapted to the forms selected in this instance for articles of general use, has been most happily arrived at by them. The simple and sensible forms selected have been adopted with taste, and the aim at unity is apparent in the unobstructed outline applied to the well-finished and smooth, bright surfaces. We are disposed to commend the specimens of manufacture before us from a consideration of these points in composition, in which, also, utility has been well attended to: they are well executed and cleanly modelled. An equally well-designed service, in a more florid style of composition, with due attention to regularity of outline, a greater use of the geometrical curve, and the lightness which is proper to ornamented metal, would form an excellent contrast to the present set, and would, we think, be

likely to prove lucrative to the successful manufacturers. In plated metal-work England may expect to stand pre-eminent in the Exhibition of '51, and



we hope to see her present high position maintained by the efforts of Messrs. Dixon, Broadhead and Atkin, Sturges, &c.

Books.

ILLUSTRATIONS OF THE REMAINS OF ROMAN ART IN CIRENCESTER, THE SITE OF ANCIENT CORINIUM. By Professor Buckman and C. H. Newmarch —G. Bell, London.

IT would be all the better for the character of our manufactures if our manufacturers were better acquainted with the archæology of their productions than their works shew them to be; and it is by the study of works executed as well and thoroughly as the present that they may become so. This volume has been compiled with the view of collecting the memorials at present extant of the remains of Roman art in the old town of Cirencester, now easily accessible by the Great Western Railway. On the antiquarian merits of the book it is not within our province to speak, but we may commend it to the notice of potters and manufacturers of glass as affording much information bearing on their respective arts, especially as regards the chemistry. From a report by Dr. Voelcher, on the analysis of Roman ruby-glass found at Cirencester, we may extract the following, which may be found useful to our Hardmans, Bacchuses, and others:—

"Dilute nitric acid, with which I first treated the glass, shewed a marked action on the glass; the green substance, with which the glass appeared to be stained, was soon dissolved with effervescence, and a white crust, of greater thickness, presented itself, which, likewise, was soluble with effervescence in the same liquid. During the solution of these two coatings, in nitric acid, a white gelatinous substance was separated from the glass, which was insoluble in water and acid. The action of the acid, at first very violent, gradually became weaker, and at last ceased altogether. The remainder of the glass now exhibited a bright red colour, instead of the original green; the red colour was not changed by exposure to heat, or the action of sulphuric and hydrochloric acid, nor did the other characters of the glass appear to be altered by these acids. It was semi-transparent, and evidently a soft glass, as it fused readily, when exposed to a moderate heat. By nitric acid, therefore, the glass has

become separated into two parts; one, which was decomposed by acid, forming the green and white coating of the glass, and one which was not decomposed by the acid, constituting the red coloured semi-transparent glass. The first, for the greater part, was soluble in the acid, leaving only a gelatinous white substance behind, which proved to be silica. The soluble substances contained in the acid solution were chiefly oxide of lead, oxide of copper, with some lime, traces of iron, and alumina.

"The undecomposed part, that is, the red coloured semi-transparent remainder of the glass, was found to contain the following substances:—

Oxide of lead.	Oxide of iron.
Protoxide of copper.	Potash.
Alumina.	Silica.

"These analytical results present us with the following suggestions:—

"First, The external green colour of the glass is due to carbonate of copper.

"Second, The white coating, which appeared after the green colour had disappeared, chiefly consists of carbonate of lead, or white lead.

"Third, The interior part of the glass, so different in appearance from the exterior, nevertheless contains almost the same elements, but in a different state of combination.

"Fourth, The red colour of the interior part of the glass undoubtedly is produced by protoxide of copper, which is present in considerable quantity, probably in combination with alumina.

"Fifth, The green and white coatings of the glass are the result of a partial decomposition of the glass.

"We thus see that chemical analysis enables us to form a more correct view of the nature of the glass, whilst it gives us, at the same time, the key for explaining the curious change, which it has undergone during the time it has remained hidden in the streets of Cirencester.

"Even had we succeeded in discovering the red colour of the interior of the glass, without applying any chemical reagents,—and to a careful observer, like Professor Buckman, this did not remain concealed,—still it would have been impossible to explain the strange appearance of the glass without consulting the composition, and bringing to bear on the subject our knowledge of the chemical properties of the substances which enter into the composition of the glass. But having found, by analysis, lead, copper, silica, etc., we have now no difficulty in tracing the origin of the green and white coatings, if we remember that certain combinations of copper and lead with silica are decomposed gradually, by the long-continued action of water, air, and carbonic acid. Under these agencies the silicic acid, originally in combination with copper and lead, is set free, or separated, and the carbonic acid, finding now oxide of copper and lead, for both of which it has affinity, in an uncombined state, eagerly unites with these metallic oxides, forming carbonate of copper, which has a green colour, and carbonate of lead, or white lead. But these coatings, when sufficiently strong, soon prevent the air or water from penetrating into the interior of the glass mass,—in other words, they prevent the further decomposition, and thus it happens that we find this glass in so peculiar a state. Without chemical examination we should have remained in the dark, as to the nature of the glass, and, misled by a decomposition product of one of its constituent parts, we might probably have been induced to form an erroneous opinion of the sense of harmony of colours of the Romans, as exhibited in their mosaics.

"The above analysis is further interesting, inasmuch as it furnishes a new proof of the knowledge possessed by the ancients of colouring glass red by means of copper. That all Roman ruby-glass is coloured by copper is a fact established beyond a doubt, for, in addition to indirect proofs taken from the writings of ancient authors, we possess direct analytical evidence that the ancient Romans were acquainted with the art of colouring glass red by means of copper.

"Both Cooper and Klaproth ascribe the ruby colour of Roman glass, which came under their notice, to its containing protoxide of copper, a conclusion which has been confirmed by several more recent analyses of Roman ruby-glass. Various methods of applying copper were probably in use, and though metallic copper is capable of imbuing glass with a red colour, no doubt on account of the protoxide of copper, which is found in almost every sample of copper, in most cases it was first subjected to operations which tended to generate protoxide of copper. We know at present that peroxide of copper (black oxide) can be used for the same purpose, but then we must add to the glass mass, substances, as tartar, charcoal, soot, iron, tin, protoxide of iron, all substances which at a red heat combine with part of the oxygen of the black oxide of copper, and thus become the means of reducing the latter to red oxide of copper.

Now it is exceedingly likely that the old Romans were acquainted with similar processes, in which the black oxide of copper was used in the preparation of ruby-glass, for Cooper and Klaproth's analyses of Roman glass, as well as my own, have shewn the presence of oxide of iron in the glass; and, as the small amount of iron in ruby-glass has been found by experience to contribute much to its intensity of colour, we have reason to believe that the ancients were acquainted with this important action of iron. Copper appears to have been the only material with which the Romans produced their ruby-glass, for gold, or gold preparations, which likewise impart a beautiful red colour to glass, are never met with in Roman glass; and it is therefore natural to suppose that the property of gold and its combination was unknown to the Romans, for we do not find any traces with the ancients which could justify the supposition of their being acquainted with the art of making the purple and rose-coloured or ruby-glass, which at present is manufactured in great perfection in Bohemia, where chloride of gold is now generally used for that purpose by the glass manufacturer. The application of gold preparations in the manufacture of ruby-glass, comparatively speaking, is of recent origin, for before the seventeenth century the use of gold appears to have been unknown, and it is only then that we find the first reference



CERES.

made to the use of gold for colouring glass red, by Cassius, who discovered and recommended a new combination of gold, which to the present day is known under the name of Cassius' gold purple.

"The art of colouring glass red was at one time lost, and it appears that, in the seventeenth century, many endeavours were made to recover it again, which ended in the discovery of Cassius' gold purple. We here again meet with an example proving the importance of chemistry to the manufacturer. A correct analytical knowledge might have saved former experimenters much trouble and time, and the analysis of

ancient Roman ruby-glass might have led again to the recovery of the art, which was practised in great perfection by the Romans."

If, however, the readers will turn to p. 80, in our November Number, they will find that the composition of the red glass of the ancients is known, and that it was produced from the red protoxide of copper and protoxide of iron, and that lead was mixed with the silicates, in order to flux them the more readily. We have also proof given us, in the same paper, that gold was used for the purpose of producing a ruby tint in glass in this country in the 14th century. This art must have been known to the Byzantine Greeks, as the marks in the MS. representing gold are peculiar to the Byzantine chemists. The learned professors must, therefore, in their future editions inquire into this.

The designer will find some well-executed copies of tessellated pavements worthy of his study, especially in the borders. We cannot agree in the implied approbation of Mr. Westmacott, R.A., of the introduction of heads and figures in these pavements; and when he speaks of "the fine feeling of the picturesque confined within the limits of grand simplicity, which satisfies him that such works were produced after examples of the very highest reach of art," we feel that, eminent as he is as a sculptor, he has not mastered the first principles of ornamentation, which certainly forbid "picturesque" treatment in a pavement in the sense here meant. We do not want a picture, or anything like a picture, to tread upon.

A Progressive Course of Inventive Drawing, on the Principles of Pestalozzi, for the Use of Teachers, &c. By Hermann Krüsi and W. J. Whitaker.—London: Ramsay, Brompton Row; and Ward and Co., Paternoster Row.

The present mode of education allows but a short space of time to be early devoted to the study of art, and few youths commence an artistic education until nearly at the time when an application to the business of life almost precludes it, but a timely exercise, which would enable them to bring a practised hand and eye and a comparatively fine taste to bear upon any later necessary artistical education, would prove of infinite utility. The object of this work is to guide the teacher in his efforts to develope a correct power of design, by producing a graduated series of figures by means of the elementary geometrical forms, the line, the angle, and the arc, or segment of a circle, to which any degree of combination is applied as the pupil advances. The system is good, and, if well directed, capable of imparting a powerful impulse in a right direction.

The Hand-Book for Modelling Wax Flowers. By J. and H. Mintorn. Fourth Edition.—Routledge, Soho Square.

The Messrs. Mintorn, not contented with having conquered the difficulties of their profession, are inclined to afford to others the benefit of the experience which they must have acquired at a cost of much time, labour, and expense: there is the true artistic feeling in this, and a consciousness of an honourable superiority in the art they here describe, which has removed all taint of jealous feeling, and, to the advantage of the many who may be inclined to profess this elegant occupation, we are carried beyond the age of secrets. What true lover of Flora is ignorant of the perfection with which Messrs. Mintorn imitate her excellencies, or caprices which are in themselves beautiful? They certainly have the merit of having raised wax-flower modelling from a mere tasteless, clumsy trade, to a position at which it ranks as an art. We have seen, at their rooms in Soho Square, the most difficult and intricate arrangements, in flowers, produced among us through the wonders of floriculture, so perfectly imitated that the eye of the most experienced botanist would be deceived. We recommend the work as an agreeable and useful present.

Notices of Chinese Seals found in Ireland. By Edmund Getty, M.R.I.A.—London: J. Hodgson, 13 Paternoster Row.

We have read this carefully printed work with curiosity and interest. A number of very ancient Chinese seals, of an imperishable vitreous porcelain ware, have been found in various remote and uncultivated spots in Ireland. They are all similar in form, and bear inscriptions in a very ancient Chinese character, and are quite different, in all respects, from the steatite seals at various times imported from China, collections containing which never possess these of ancient model. Many different opinions are given, with fairness, by the author, as to the means by which they found their way into this country, but he himself leans to the opinion that they may have been introduced by early Irish monks, some of whom were in the habit of visiting the East as pilgrims. He instances a rare work, *Liber de Mensura Orbis Terræ*, by Dicuil, an Irish

monk, who flourished in the early part of the ninth century, and in which it is stated that one "Fidelis" undertook a journey to Jerusalem for purposes of devotion, sailed up the Nile, saw the Pyramids, which are described as the seven granaries of St. Joseph, and crossed, by a navigable canal, to the Red Sea. It is, therefore, not impossible that our Chinese seals, which are here engraved and translated, may have reached the distant island by the intervention of such pilgrims; as Chinese vases have been found in Egyptian tombs.

THE ART-CIRCULAR, A MONTHLY RECORD OF ILLUSTRATED LITERATURE AND ART-MANUFACTURES.—Cundall and Addey, 21 Old Bond Street.

THE object of this useful circular is to collect, monthly, such intelligence, relative to the production of works of art, or illustrated books and engravings, as is likely to be of interest to those by whom the cultivation of the fine arts is considered a matter of importance.

List of New Manufactures.

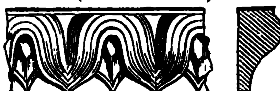
Useful and Ornamental.

[ON the same principle as the Literary Journals give a list of new publications issued weekly, so we propose to afford to manufacturers, &c., the opportunity of announcing the novelties they bring forward, accompanied with such brief remarks as will be strictly explanatory; that the statements under these circumstances, our readers will have the goodness to bear in mind, are made on the responsibility of the producers.]

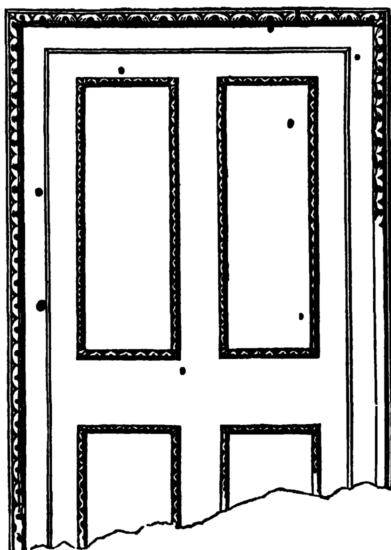
Mouldings for Architraves, Panels, Borders of Rooms, Doors, Window Shutters, &c.—These mouldings are made by patent machinery, in a new waterproof composition embossed on wood. The advantages are, that they are made in 12-feet lengths without joints, and in imitation of carvings, at a very little extra expense than the plain wood mouldings, and can be fixed with a great saving of time, and with the same facility. Charles F. Bielefeld, Patentee and Manufacturer, 15 Wellington Street North, Strand.



(Half actual size.)



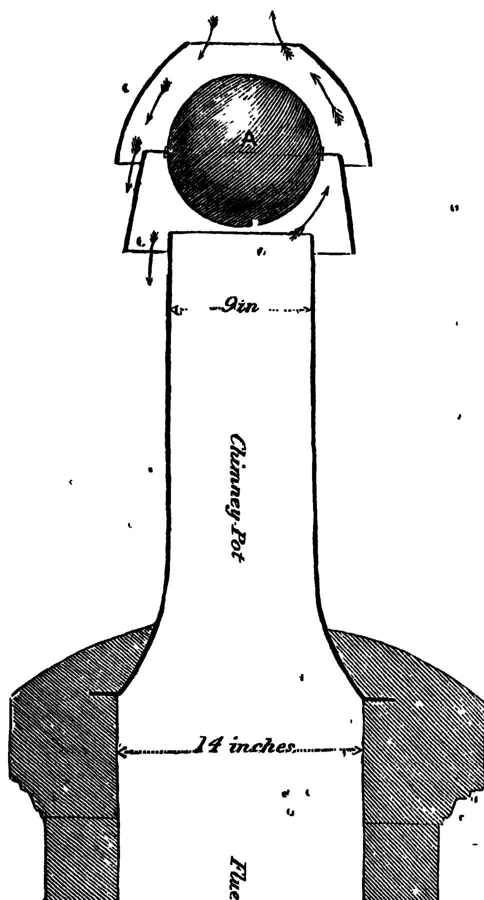
(Half actual size.)



Flashed Glass Vase.



Manufactured by Apsley Pellatt.



Welch's Patent New Globe Windguard (or Commonsense Chimney Pot), for Curing Smoky Chimneys.

The metallic globe (A) is fixed in a circular cap, above the pot, on a horizontal spindle, on which it revolves to *admit of being swept by the brush.*

The globe protects the *flue* from downward currents of wind, which cannot touch the *smoke* until it is actually clear of the pot, and then it is dispersed, as shewn by the arrows to the left.

Where there is no downward current of wind, the smoke flows round the globe, and is ejected at the top, in the usual manner, as shewn by the arrows to the right. Patentee, Edward Welch, Esq., Architect, 29 York Buildings, New Road.

The price is moderate.

Note.—Manufacturers are requested to forward illustrative woodcuts for this list as early in the month as possible. Those who may not have woodcuts ready, and desire them to be prepared expressly, may be recommended to apply to Mr. Bolton, 331 Strand.

Institutions.

SOCIETY OF ARTS.

Dec. 11, 1850.—Professor F. Crace Calvert, of Manchester, read a paper 'On the Bleaching of Linen, Cloth, Calico, Flax, and other Fibres.' The flax and cotton are two of the most important plants, as they furnish the fibres of our staple trade, and after they have been employed as fabrics are made into paper. Flax originally came from Asia, but is now naturalised to our climate. Of flax there are three varieties, which are now grown in the colder climates of Belgium, Holland, and France. In 1849, 626,459 quarters of seed were imported into England, and the greater portion of of it was employed for seeding.

Within the last ten years Ireland has produced to the amount of about 2,000,000*l.*, although we find unfortunately that only one-tenth of this has been rendered available. It is, therefore, extremely desirable that farmers should sow that variety of flax which will give him seed, or flax-fibre, according to the

wants of the market. The plant is submitted to the ordinary steeping, or fermenting process, in order to separate the fibres from the gummy particles, and a process has been recently introduced, known as "Schenck's patent steeping process," which consists in steeping the flax in water raised to a temperature of 90°, at which temperature the gummy matters are found more readily to dissolve, and the fibres to separate.

Hemp, which has been known in our country for centuries, is also deserving the attention of our agriculturalists.

Cotton appears to have been derived originally from two varieties; one an herbaceous plant which grows in Egypt, Persia, Asia Minor, and the United States; the other, a shrub, principally cultivated in Egypt, Arabia, and the United States. The four chief processes through which cotton is required to pass after it is received into this country before it is manufactured into goods are the following,—carding, drawing, rowing, and spinning; and owing to the improvements which have been made in machinery these operations have been brought to a high state of perfection. This is specially the case at the establishment of Mr. Holdsworth, of Manchester, which has produced an example of the finest cotton that, it is believed, has ever been manufactured; and by which it appears that from one pound of cotton 520 hanks of thread can be produced, each hank composed of a thread 840 yards in length. Seven thousand grains of cotton-fibre is therefore capable of being manufactured into 436,810 yards of thread, equal to 248 miles in length.

The difference between the flat fibre of the cotton and the irregular tubes of the flax, as viewed under the microscope, render the processes for bleaching and dressing different.

In order to illustrate the various processes by which flax or linen and cotton are bleached, and the chemical actions of the agents employed, a series of tables and diagrams had been prepared. The usual process now employed in Lancashire in the bleaching of cotton is as follows:—It is, 1, steeped for six hours; 2, washed, half an hour; 3, boiled, twelve hours; 4, steeped in a solution of carbonate of soda twelve hours; 5, dipped in sulphuric acid, spec. grav. 102° 20′; 6, steeped in a bleaching powder solution; 7, dipped in acid; 8, boiled in an alkaline solution; 9, steeped in bleaching liquor; 10, dipped in acid. If fine fabrics, such as muslin, are bleached, the boiling is done away with.

The bleaching of linen, although bearing a similarity to cotton, is on the whole materially different, owing to the nature of the fibres, and the organic substances which unite them. In this process, or any other, linen loses 18 per cent of matter soluble in alkali, and from 28 to 30 per cent of its weight during its change from a brown to a white cloth.

It requires six weeks in summer, and three months in winter to bleach linen.

The Professor stated that by a process which he had recently discovered, but which he is not yet in a position to make public, he is enabled to reduce the period required by the bleaching process to three or four weeks.

After the cotton-cloth is manufactured, it should be dressed in order to get rid of the woolly particles. The first and most common mode of doing this is by passing the cloth over a hot roller by which the woolly particles are singed off. In the second, the cloth is passed over a series of gas-pipes and lights; and by means of a strong draught the flame is drawn through it, by which means the woolly fibres are burnt off. The third process, which has only been introduced at Manchester within the last three months, consists in substituting a purer gas for the ordinary coal gas, and blowing it on to a body of charcoal, by which means a more intense heat is obtained. And the more perfectly these fibres are removed without damaging the fabric, the higher will be the gloss or finish.

The innumerable splints, or resinous fibres, observable in the fabrics, which cannot be removed by the ordinary process of bleaching, are an obstacle to its perfection. Some very beautiful specimens of the fibres of the Jute, a China grass, which he had bleached, were shewn: this came from the Cape of Good Hope. The Jute grows in marshy land, and is peculiar on account of the large amount of iron which it contains. Cotton-silk and wool each require to be treated by the dyer in a peculiar manner; but it is a singular fact that the process peculiar to the dyeing of silk produces a better effect upon the China grass than does that which is common to cotton and other vegetable matter.

Mr. Warne advocated the old British system of dressing flax; in support of which he exhibited specimens which had been valued at from 50*l.* to 70*l.* per ton, and had been prepared by children under fifteen years of age.

Mr. Doulan upheld that of the dry preparation of the fibre, and exhibited specimens which had been prepared by him, and valued by three eminent London

brokers at from 64*l.* to 112*l.* and 120*l.* per ton.

ROYAL ACADEMY OF ARTISTS.—On the 10th of December, the new President met the students, for the first time since his election, at the distribution of premiums offered to the pupils. The opportunity of delivering the presidential address was not afforded, as the chief prizes are not given this year. Sir Charles Eastlake, however, offered a few observations, which were characterised by great taste and feeling, to the students assembled. After pointing out to them the purpose for which they assembled there, the nature of their studies, and what was expected of them, he alluded to the time when he himself, who now offered them advice and encouragement as President of the Academy, sat on the students' bench and listened to exhortations similar to those they now were hearing. The inference, that achievement was the result of study and steady, persevering cultivation, was not lost upon his hearers, by whom, we understand, the President was warmly welcomed.

LEEDS SCHOOL OF DESIGN.—A committee lately appointed have had a meeting at the school, which was attended by the mayor and other gentlemen. The opinion generally expressed by the meeting was, that it would be discreditable to the town to allow so valuable an institution to languish for want of the necessary funds, and it was therefore resolved that, to meet the existing debt of 250*l.*, and to raise an annual subscription of 150*l.*, a canvass be forthwith commenced. Messrs. W. Beckett, M.P., and J. G. Marshall, M.P., as well as the mayor, doubled their subscriptions. Subscriptions were also announced from Sir Thomas Beckett, Mrs. Beckett, Mr. E. Denison, M.P., &c.; and already about fifty new subscribers have been added to the list.

Miscellaneous.

ACCORDING to a petition presented to Parliament by a Society to obtain REMISSION OF THE TAXES ON KNOWLEDGE, THE JOURNAL OF DESIGN is characterised as a "flagrant violator of the law" for giving "news" of its own without stamping its sheets as a "newspaper." We had no suspicion of our offence; but if the fact be so, the sooner the law is altered the better. Certainly it is an anomaly that some publications may be partially stamped, whilst others must be wholly stamped, and others not stamped at all. The stamp was intended as a postage charge. Let it be clearly recognised as such, and do not compel publications to pay the postage which do not use the Post-office. We think our readers would hardly like to have four penny stamps charged on THE JOURNAL OF DESIGN, as would be the case if the alleged law were imposed upon it.

We may, perhaps, hope that our recent observations on PUBLIC FOUNTAINS are producing some good effects, for we find it stated that Mr. W. H. Gore Langton, of Newton Park, has given 100*l.* towards the erection of public fountains in Bath.

THE LATE MR. HULLMANDEL.—We abridge from the *Builder* the following notice of this art-manufacturer:—Mr. Charles Hullmandel arrived in England from a continental sojourn of some years, and, in 1818, first set up, in Great Marlborough Street, a lithographic press. In order to be thoroughly acquainted with the chemical changes of the lithographic stone, when undergoing various preparations, he studied chemistry under Professor Faraday, and qualified himself to investigate the causes of the various failures, and to alter or modify the preparing fluids, so as to suit the nature of the stone, chalk, ink, &c., on or with which the drawing under preparation had been executed. Senefelder had invented the method of printing a tint over a black and white impression, so as to imitate a drawing on tinted paper with raised lights; but Mr. Hullmandel made the process of real value, by discovering the means of *gradating* the tint, which great improvement prepared the way for, and gave rise to, those splendid folio works by Stanfield, Roberts, Prout, Nash, Haghe, Harding, &c. His attention was then directed to acquiring the means of printing drawings made on the stone with a brush and liquid ink, after the manner of Indian ink or sepia drawings, and which the French authorities in lithography had pronounced impracticable, and for the discovery of which his late Majesty Louis Philippe had offered a reward. Mr. Hullmandel's energetic and investigating mind, however, triumphed over all obstacles: success was achieved; he deserved, claimed, and received the reward; and the invention, which he entitled Lithotint, he soon after patented. The introduction of the use of the "stump" on stone, and the discovery of a peculiar

method of preparation of the drawing *so executed*, was his next improvement, and afforded to artists a far easier, quicker, and more beautiful means of multiplying their sketches or drawings than had ever before been in their hands. Two inventions were patented by him, one for a beautiful and rapid process of calico-printing, and the other for imitating marbles of all colours on earthenware, specimens of which have been published by Messrs. Copeland and Co. His remains were interred, attended by his friends, in the cemetery at Highgate, on the 21st November, and he will be long regretted as a talented, upright, and honourable man.

Improvements in the Manufacture of Earthenware.—There is scarcely a more striking instance of the dexterity of finger and lightness of touch attainable by constant practice than is witnessed in connexion with the manufacture of earthenware, more particularly as applied to the cockspur, one of the least attractive, but most important, articles used by the manufacturer. In order to the perfect firing of any glazed articles made of earthenware, it is essential that, while in the kiln, they should be kept perfectly free from surrounding objects, and this is effected by placing them in saggers, and separating them by means of what are technically called "cockspurs," stilts and pins; these have generally been made by hand, and varied in form according to the size of the articles they were intended to support; but the most common form is that of a rightangle-triangle, the three points of which are made as thin as possible, and turned downwards, while the centre of the triangle is rounded and drawn to a fine point in the opposite direction. The two great objects to be kept in view in the manufacture of these articles is the greatest possible strength and the smallest possible point or surface, so as to prevent the ware remaining marked after it has been fired. The objections to the old spurs consist in the points of the spurs not being precisely of the same length and strength, owing to which they occasionally give way while the ware is in the kiln, causing the whole contents of the sagger to become deranged. To obviate these disadvantages a patent has recently been taken out by Mr. Buller, for the manufacture of these spurs by machinery. Hitherto they have generally been made singly; by the present patent, however, 377 of the small cockspurs are made in one die at one blow, and are somewhat different in form to the old spur; the triangular form is still retained, but, instead of the points being turned round, small conical projections are formed at each of the angles, and a larger cone on the upper side. The spurs manufactured by this process are all much stronger and finer than the old spur, and are uniform in height: the same sagger which used only to contain eight plates will now hold ten, thus effecting a saving of one-fifth of the cost of firing. In the larger description of spurs the centres are cut out, effecting a second considerable saving to the manufacturer, as a very dense clay is required, and as each spur can only be used for one firing. Several tons of these articles are now being manufactured weekly; one machine is capable of producing twenty saggers daily, each sagger containing forty-five gross of the small spurs, or 67,760 spurs per day. The clay made use of contains a large portion of Cornish stone, which renders them hard, and prevents their sucking the glaze. They are made and delivered to manufacturers at 1¼*d.* per gross.

Improvements in Furnaces for Melting and Casting Plate Glass.—Among the many and important manufactures of this country, there is scarcely any at the present time in connexion with which greater efforts have been made to improve both the process of manufacture and the quality of the article, than in the glass trade. The result of the improvements in connexion with sheet-glass is strikingly illustrated by the rapidity with which the demand for supply has been met in connexion with the construction of the Crystal Palace in Hyde Park. It is only a few months since a patent was taken out by Mr. Bessimer for a new process of melting the metal by reflecting the heat into the pots, instead of passing it through them, by which a great saving of time was effected; and under the same patent the manufacturer is stated to be able to roll out sheets of glass of an indefinite length, free from the air-bubbles consequent upon all former processes. We have now another patent taken out by Mr. Henry Howard, for improvements in the construction of furnaces for melting and casting plate-glass. The objections to the old furnaces, he states, are that they have one tense-hole or firing-place at each end, and the pots containing the glass have to be ranged on each side of the furnace. The furnaces stand under huge cones, which are very costly in construction, and have to be closed by wrought-iron screens, for the purpose of creating a draught, whilst the flame and smoke are allowed to play over the pots, and pass out at the working holes, which are on a level with the tops of the pots. These objections he has endeavoured to

overcome by constructing his furnace with only one tense-hole, with a round grate-room, thus effecting a great saving in the consumption of fuel, and the whole structure is more compact, and the pots can be placed at one end as well as at the sides of the furnace. Mr. Howard has also adopted descending flues, by which the most intense heat is made to play round the bottoms of the pots, and by this mode of construction the large cones have been got rid of, and one moderate-sized chimney, placed at a convenient distance, is sufficient for several furnaces: he also proposes to make use of the surplus heat in its passage to the chimney to work a steam-engine. The stoppers and pots are to be removed from the furnaces by means of cranes, instead of by manual labour, and the whole arrangement is expected to effect a considerable saving in the working and manufacture of glass.

The Electric Light.—A patent has been obtained by Mr. Allman, who has successfully overcome the difficulty presented by the unsteady and flickering light which has hitherto characterised the action of the "electric light." This promises now to become a most useful application of voltaic electricity to the purposes of lighting not only our public places, but also our private buildings, as, upon a recent trial at the Polytechnic Institution, the apparatus continued to give an equal and unintermitted light during several hours. The inventor states that the expense of lighting upon this principle will be considerably less than that of gas, and proposes that it should be tried in the neighbourhood of the Crystal Palace during the Exhibition of next year. Should the projector be confident of the success of his invention, there should be no delay in preparing to make the necessary trials for the purpose of testing it in a public manner immediately, that so useful and novel a means of illumination may not be lost during the period of the Exhibition, in lighting which it would prove of great benefit, and would add one attraction the more.

The Exhibition of '51 is likely to create a great demand for glass shades, and no doubt efforts will be made to eclipse a monster blown lately at Birmingham by an English workman. It was 62 inches by 26½ inches in diameter, and contained nearly 40 lb. of metal. Until lately, a Frenchman was considered the most skilful workman in the employment of Messrs. Chance, in whose manufactory the shade alluded to was blown. This man earns no less than 9*l.* a-week, according to a correspondent of the *Daily News*, who gives the dimensions of this monster "shade." A secret in blowing great glass bubbles was lately described in the *Builder*. It consists simply in moistening the mouth with a little water before blowing. The water is converted, in the interior of the drop, into steam, which vastly aids the breath in extending the dimensions of the "bell."

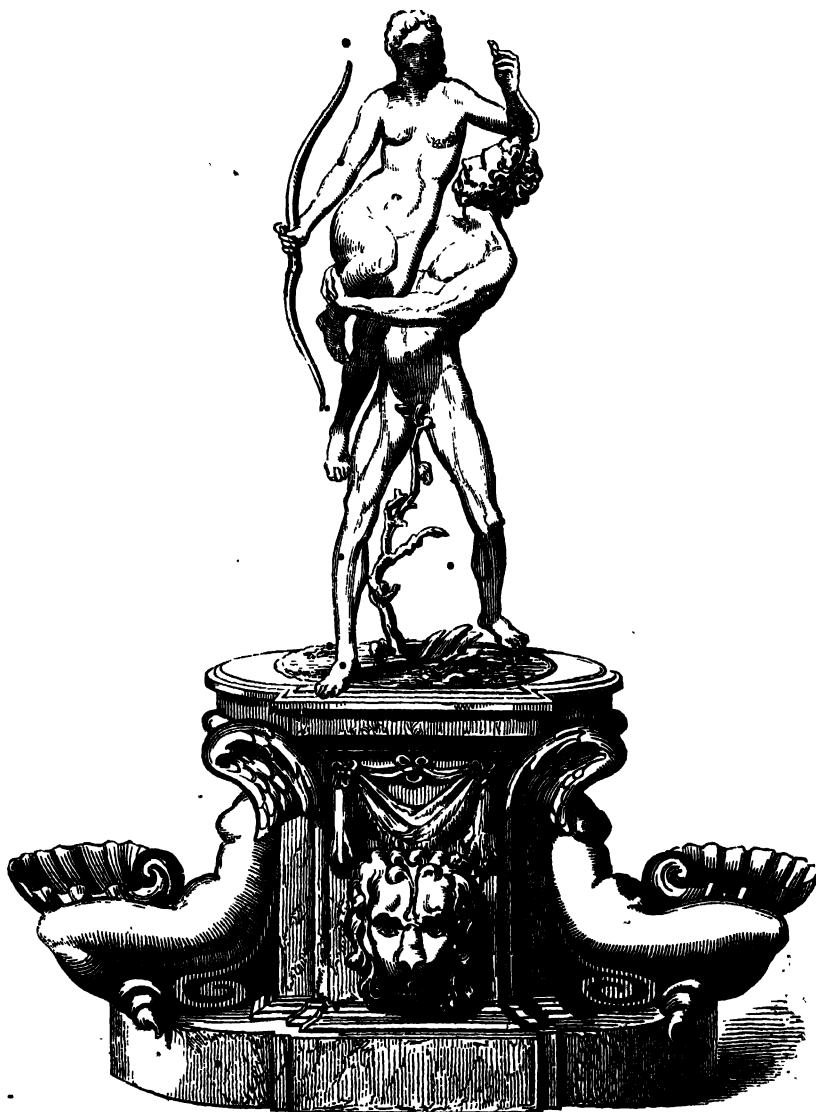
Poor Inventors.—It might almost be said that every great discovery or invention has been the work of actual workmen. It is almost impossible it should be otherwise. A correspondent sends the following list of inventive benefactors, all of whom sprang from the working classes:—John Dollond, born 1706, worked at the silk-loom; James Brindley, born 1716, rural labourer, and afterwards, apprenticed to a wheelwright; John Smeaton, born 1724, son of an attorney, and afterwards a philosophical instrument-maker; James Watt, born 1736, began life as a mathematical instrument maker; William Herschel, born 1738, musician at fourteen years of age in the Hanoverian Guards, and afterwards organist at Halifax; George Stephenson, a worker in coal-mines; Sir Isembard Brunel, once a poor French emigrant; John Harrison, born 1693, a carpenter, discovered longitude at sea.

Patents.—Among the manufactured novelties recently patented or registered are the following:—Inlaid Soaps of various colours, by A. Dunn. The object of the invention being to retain any particular trade-mark or ornamental device, during the whole time that the article is in use or on the toilet.—A Taking-up Roller for Power-looms, by W. Rye, of Manchester. This is intended to supersede what is termed "the emery roll," and is made of iron. The old roll being made of wood frequently became twisted, and the emery face wore off. The iron roller being chased on its surface from the centre, in the form of a right and left-handed screw, and afterwards fluted, when it works round, it has a tendency to stretch the cloth, thus maintaining an uniform width.—Ridgway's Pottery Fountain Handbasin. A very cleanly, compact, and simple contrivance for cottages, and well adapted to the new system of constant supply. It is intended by the manufacturer to meet the requirements of the Board of Health.—The Mimosa or Flower Cornet, by W. B. Pine. An elegant arrangement of flowers in the form of a wreath, and intended to be worn by ladies (either with or without a bonnet) who are suffering from deafness. The principal flower in the wreath forms an ear-trumpet.

Original Papers.

"HIGH ART" AND ORNAMENTAL ART.

A LARGER and more social view is gradually being taken of art, and the time is not far distant when the followers of the higher branches of it will



BRONZE, in the Collection of Her Majesty, at Windsor.

themselves lend a willing assistance in removing the arbitrary barriers that have been drawn between their own special departments and those of orna-

ment. In the School of Design the human figure, the appearances of nature in her various kingdoms, and conventional ornament, which form the subjects of education, cannot be kept asunder, with due regard to the advantage of the scholars; insomuch that that institution (Instruction in which was, at first, intended to be confined to conventional art) is now become an excellent school of "high art," difficulties being found in keeping the different departments distinct; and fortunately so, for this unavoidable merging together demonstrates their common origin and natural harmony and union.

As conventional art, or the lower branches of ornament, derive advantage from the study of the various subjects of nature, and the higher branches of art, so are the higher branches of art improved by a greater regard for ornament. Not only is an ornamentist a better ornamentist, as is proved by all past precedents, by being as far as possible a painter, architect, or sculptor; but the painter also, the architect, or the sculptor, is better in his department the more he is also an ornamentist. True it is, that ornament is sometimes, far from being a picture; but, also, we see pictures that are no ornament. And this, perhaps, not so much from their being bad in themselves, as from their being inappropriately placed, as where great portraits of, perhaps, the master or mistress fill half a side of a small room, with not space enough to retire to the right point to see them, lighted vilely, and worse associated with inharmonious paper, curtains, and carpet. It is the practical peculiarities of modern times that have divided so much the different sections of art. Many an artist, a few years ago, would have been loth to be considered an ornamentist at all. He would have thought it derogatory, not recognising that art is *one*, though it has many phases and mansions. Perhaps, even now, there may be some who would think and say so; but we apprehend that even those who are not inclined to think out the subject for themselves, will hereafter follow example, or the force of precedent. The paintings of the Sistine chapel, the pediment of the Pantheon, possess the highest qualities in art: the noblest emblematic pictures are in the former, the finest works of sculpture in the latter; and yet they are arranged as ornaments. They were designed to adapt themselves to, and ornament the buildings in which they were the chief attraction. In most of the fine works of sculpture their intention of ornament is by no means overlooked. There is every evidence, indeed, of its having been kept strictly in mind. In their execution, from first and last, the general masses and completing lines being manifestly studied with a view to uniformity of line, and symmetry of ornamental proportion.

The well-known classic group of the Cupid and Psyche is of a regular vase-like form, small at the base, swelling to a larger size above, and decreasing towards the heads. The Venus de Medicis possesses nearly as regular a general contour, having on its left side, to make up the requisite mass, a beautiful piece of ornament in the dolphin and cupids which rise from the base; and in the group of the Laocoon, although in the strongest action, a uniformity of mass is preserved. That this adapting of a work to be an ornament in the place in which it is to be seen, has been a recognised evidence of discretion and knowledge, and an advantage to the work itself, is evidenced by the result of the well-known contention of Phidias and Alcamenes. "Phidias having, in competition with Alcamenes, made a statue of Minerva to be placed on a column; the work of the latter appeared so well, when viewed on the ground, that it was universally admired, while that of Phidias seemed to be but a sketch; but when both were seen from their destined situations, the beauties of the first were lost, while that of Phidias produced a striking effect." It is evident here that the artist gained the palm by his attention to making his statue a proper finial ornament for the decoration of the column, and from his having taken into consideration the situation it was to occupy.

The intimate uniting of high art and ornament, or what might be called in these days of new verbal coinage, the *Cellinesque*, with the purer feeling, is, we believe, a mine very little worked of late, although such union has its precedent in the best ages of Greek art, and has been always recognised by those who have

thought most, and best, on such subjects. We will again call on the Athenian for his authority. The largest work of Phidias was the colossal statue of Jupiter at Elis, and is thus described by Pausanias,—"The god is seated upon his throne, made of gold and ivory, a crown of olive-branch on his head; in his right hand bearing a victory, also of ivory and gold, who holds a fillet, and is crowned; the left hand of the god grasps a sceptre of various-coloured metals; an eagle of gold sits upon the sceptre; his garment is of gold, and on it are wrought animals and flowers, particularly the lily; his sandals also are of gold: the throne is variously ornamented with gold and gems, and also with ivory and ebony; on it animals are painted in their proper colours, and sculptured with great labour. Four victories, as in the dance, are on the hinder feet of the throne, two on each side; and on the front the children of the Thebans taken away by the sphynx; and beneath the sphynxes Niobe and her children slain by Apollo and Diana; on the frames that join the feet of the throne ornaments are carved; on that in front Hercules warring with the Amazons." Pausanias numbered upon them altogether twenty-nine figures. "There were also pillars which adjoined to the feet supporting the throne; but there is no entrance underneath the throne. It is hollow; but the spectator cannot enter, because a wall includes the statue." On this wall Pausanias enumerates other subjects of equal elaborate ornament, and then proceeds to describe the ornament of the upper part of the throne above the head of the god, which he says was decorated with representations of the Graces and the Hours. "Three of these are large, being called daughters of Jove. Upon the seat lions of gold, and Theseus warring with the Amazons; and upon the base of the throne, which great mass was wrought in gold, are other ornaments relating to the god. The rising sun in his chariot, and Jupiter and Juno, and by them the Graces; these lead Hermes, and Hermes Vesta. Cupid also, from the sea, receiving Venus, who is crowned by Persuasion. Apollo with Diana, and Minerva with Hercules; and on the lowest part of all Neptune, and the Moon in her chariot urging on her horses." The decoration on the outside of the Temple was in accordance with that within, and the whole building, a noble work of Libon, a native of the place, was of the Doric style. Ages have swept away the marble, ivory, and gold, and the building which contained them, leaving but the "winged words" that still hover over the classic ground to record its former marvels. The instance we have just cited is an example, on the grand scale, of the union of many branches of ornamental art to produce one harmonious effect. It may be perceived that in it no part was slighted. The decoration of the throne in which the god sate received a full proportion of the thought of the artist. It was not made simple, in the modern "practical" sense of the term,—that is, crude, and bald, and ugly!—but was highly elaborated with ornamental subjects connected with the principal object; and had the work been spared to modern time, it would, no doubt, have offered to us an example of the most happy brotherhood of parts and harmony of features, yet all bearing one expression.

It may be bathos, after revelling in the traditions of such a work as the Temple of the Elean Jove, to descend to the bronze group and base from her Majesty's collection at Windsor, which was exhibited in the Mediæval Exhibition at the Society of Arts, a representation of which we insert; but it is instructive to observe how, even under the disadvantages of the group being too small for the base, and the character of the higher parts of the art bad (the proportions of the man especially being, indeed, impossible), that yet the ornamental quality of the whole work imbues it with an effect, which renders it a more pleasing adjunct to the decoration of a room than, perhaps, a work of higher art, if composed with less feeling for ornament. It is also a good treatment of the material, the consideration of which is another important component in the success of a work of art. The base is picturesque and bold. The female chimeras are wild in treatment, and, in truth, hardly decent in application, though quite refined enough, no doubt, for the age in which they were executed. The composition was intended for a fountain, and it should be remembered that in a work for that purpose the jets of water form part of the composition, without which the design cannot be justly appreciated.

On a future occasion we may follow some considerations further suggested by the fraternity of the ornamental arts and their practice in ancient and modern times.

IRISH FLAX MANUFACTURES.

BY J. MACADAM, JUN.

(Concluded from page 136.)

THE export trade of linens has steadily increased for a series of years. Under the Linen Board bounties were paid on the export of several kinds of linen fabrics, the last having ceased in 1830. Although these bounties, in the earlier period of the manufacture, tended to encourage an export trade, the true source of its late increase has been the improvement in the spinning and manufacture, which caused a gradual reduction in price, and the supplanting of the German, Belgian, and French manufacture in neutral markets. At one period the supply of South America and the West Indies was chiefly in the hands of the Germans; but the Irish trade has advanced so much more rapidly, chiefly from the improvements in machine-spinning, that German linens have almost disappeared, and the Irish command the market. One kind of Irish linen, largely sold in South America, is named Silesias, and made up in imitation of the linen formerly supplied by that province of Germany. The New World takes the great mass of the linens exported, those sent to the Eastern hemisphere being of very trifling amount in comparison. This does not arise from the consumption being proportionally less in the countries of the Old World, but from the high duties which most of the European states maintain on the import of these fabrics, and from the small disposition to use them in Asia and Africa. At the present time our linens have access on fair terms to countries having only 40 millions of inhabitants, while in Western Europe above 100 millions are, by the existing high duties, denied the means of freely purchasing an article to whose use they are much more attached. When the governments of those countries are disposed to relax their present restrictive policy, Ireland would find an immense field for the sale of her manufactures. Although the use of linen in the East dates from a high antiquity, as is demonstrated by the allusions in Scripture, and the evidence afforded by the Egyptian mummy cloths, at the present day cotton is almost exclusively used. It was anticipated that the opening of the great empire of China to European trade would have favoured the introduction of linen; but so far the Chinese appear to have a strong prejudice in favour of a fabric termed grass-cloth, which resembles linen more than cotton. It is probable, however, that the great cheapness of linen may ultimately increase its consumption in the East, and already the exports to the Levant have been considerably augmented.

The home consumption of linen fabrics has by no means kept pace with the increase of the export trade, nor has the consumer derived much advantage from the reduced cost of production. Linen still continues an article of luxury, and is little used by the lower classes. The chief reason of this fact is to be sought in the large profit taken by the retail drapers. It is well known that, in any retail trade, the articles in greatest demand are sold at a very small profit, the vender relying on obtaining for the rest of his stock such prices as will make up to him for the very trifling advantage he derives from the sale of those more largely consumed. This general principle holds good in its application to the draper, who is contented with a profit of 5 per cent, and sometimes less on cotton fabrics, while he asks 50, 100, or even 200 per cent, on linen. The immense progress of the cotton manufacture, after the employment of machinery in spinning cotton-wool, caused a corresponding increase in the home consumption of its fabrics, many years before the linen manufacture in its turn participated in the same facilities of production, and hence cotton rapidly increased in consumption among the lower class of Great Britain and Ireland, while linens continued to be worn only by the better classes. It

is a fact worthy of comment, that a fine linen shirt can be procured cheaper in Paris than in London, although the linen costs the French retailer nearly double the price. This anomalous state of things must sooner or later come to an end, and the artisan and the labourer be enabled to purchase his linens at a rate more in accordance with the present cost of production. As an instance of the extent to which linens might be consumed by the lower classes in this country, it may be stated that a flax-spinner in Belfast, having proposed to give his workers the linen they might require for their own use at manufacturers' prices, and to take payment by instalments, 600*l.* worth was at once claimed.

The articles manufactured in Ireland from flax are very numerous. Among these may be named,—ordinary shirtings, light and heavy, of all degrees of texture; sheetings; drills, plain and striped; checks; bedticks; damasks and diapers; grey damasks for stair and carpet covering; mosquito netting; lawns; cambric and cambric handkerchiefs; printed lawns and cambrics; sacking; canvas; besides ropes and cordage; yarn for carpeting; sewing and tailors' threads, &c. &c.

As in the case of most other manufactures, certain districts excel in the production of particular kinds of fabric. Thus the neighbourhood of Lurgan is the seat of the cambric and lawn manufactures, Lisburn and Belfast of damask, Armagh of light linens, Ballymena of heavy linens, and so on.

The cambric manufacture has advanced more rapidly of late than any other branch of the trade. The textures made are chiefly of the coarser and medium sets, in which they excel the French, while the latter still maintain their pre-eminence in the very fine. As the great bulk of consumers purchase the kinds chiefly made in Ireland, it follows that the Irish goods now almost command the market. In Sir R. Peel's speech on the tariff of 1846, the following statement was made, which clearly shews the extent to which Irish cambric has displaced the French in the home market:—In 1825, for every 1000 pieces of French cambric sold in England, 100 pieces of Irish went into consumption. In 1845, for every 1000 pieces of French, 16,000 pieces of Irish were sold, although, in the interval, the duty on the admission of foreign cambric was considerably reduced. There is a large export of cambric to the United States of America, but little is sent anywhere else.* This manufacture affords the only instance of hand-spun yarn being at present used in Ireland. There is still about 40,000*l.* to 50,000*l.* worth of fine hand-spun yarns imported from Westphalia, as machinery cannot yet produce equally well the extremely fine numbers required for the finest sets of cambric, although every year mill-spun yarns are encroaching on the hand-spun, and will probably eventually supersede them. Very fine specimens of Irish hand-spinning have been occasionally produced of the grist of 30 to 80 hanks to the lb., or 360 to 960 leas. One sample has been exhibited of 1140 leas. Mill-spun yarns rarely go higher than 260 leas, although of late some trials have been made as high as 400. From the great difference in value between the flax and the yarn, say 2*s.* 6*d.* per lb. for the former and 30*s.* per lb. for the latter, it might be supposed that this kind of hand-spinning would be a lucrative source of employment. But, unfortunately, very few women are capable of spinning beyond the numbers of yarn produced by machinery; and when they can spin the finer, the small quantity which they can produce, in a day, of such extremely fine thread, makes their average earnings much less than might be anticipated. An expert spinner, in very favourable cases, could not earn more than 3*d.* or 4*d.* per diem; and it has been stated, that about 1*d.* may be taken as the average daily earnings of the fine hand-spinners of Germany. The

* The reduction of value in cambric is shewn in the following table, which gives a few of the leading sorts:—

Price per dozen of Irish cambric handkerchiefs.

1833...	8*s.* 3*d.*	10*s.* 3*d.*	12*s.* 9*d.*	16*s.* 3*d.*	27*s.* 6*d.*	35*s.*
1838...	7*s.*	8*s.* 3*d.*	10*s.*	14*s*	22*s.* 6*d.*	28*s.*
1848...	2*s.* 10*d.*	3*s.* 6*d.*	4*s.* 6*d.*	6*s.*	12*s.* 6*d.*	18*s.*

These are of the best quality. For export some are made so low as 2*s.* per dozen, or 2*d.* each.

Flax Society has endeavoured to encourage the production of this fine hand-spun yarn in Ireland, and many specimens were formerly sent to its annual exhibition; but it would appear that very few persons now devote themselves to this employment, so it may be fairly assumed that the remuneration has been so small as scarcely to induce the prosecution of it, as, in the north of Ireland, other occupations, such as muslin-working and the weaving of cambrics and light linens, are more remunerative to the women. In other parts of the country, however, fine hand-spinning might be tried; but it cannot be considered as a permanent occupation, as the mill-spun yarn must sooner or later supersede even these fine numbers.

The damask manufacture was introduced into Ireland about 1764. Mr. Coulson, of Lisburn, received several sums of money from the Linen Board to assist him in improving this manufacture. At the present time it has reached a high point of excellence, and the finest quality of Irish damasks is not excelled, if it is even equalled, by the choicest products of Saxony. These fabrics may be divided into two classes,—one consisting of the finest double damasks, and the other of single damasks and diapers. The first-named may be considered as articles of luxury, not so much from the intrinsic cost of manufacture, which is not great, but from the great expense attendant on the getting up of special designs for persons of rank and other wealthy individuals or public bodies, to whom the extra cost is of no consequence. Irish damasks have been furnished to several of the crowned heads of European states, as well as to the royal family and the highest nobility of our own country; and in the establishments where these beautiful fabrics are made, the whole aim of the manufacturer, is to produce what will reflect credit on his taste and skill, without any reference to price. The second division comprises the great bulk of coarse goods for home sale and export. Cheapness being the chief desideratum, they are produced at a very low price, so low as to encourage their consumption among all classes of society but the poorest. The principal export market is the United States of America. As yet the Continental markets have scarcely been tried, although, notwithstanding the high rate of duty, it is probable that there would be a considerable sale of the lower-priced fabrics. To all who have seen the coarse plain linen with which the tables of the middle classes in France and Germany are generally covered, it will be evident that diapers or single damasks would be much preferred among a people so alive to the embellishment of their houses and the tastefulness of their furniture.

There has been considerable improvement latterly in the printing of linens and lawns for ladies' dresses, and of the borders of cambric handkerchiefs. The chief consumption of printed linens is in the West Indies. The competition of the French and Swiss has much retarded the developement of this branch of the trade. This has not arisen from the superior quality or greater cheapness of their fabrics, but from the taste and novelty of their patterns.

It may be anticipated that the establishment of Schools of Design in Ireland will be of much service to the damask and printed linen manufacture, by providing at home a superior class of designers and pattern-drawers. In the article of linen ornaments also, of which fully 60,000*l.* worth annually are used by the trade for decorating the webs, it may be hoped that the supply will, for the same reason, be ultimately obtained at home, and that the linen merchant will not much longer be dependent on Paris or London for his supply of these decorations.

The future prospects of the Irish linen manufacture are dependent on two points,—the extended home production of its raw material, flax, and the freer admission of its products to foreign markets.

Irish flax is the best that can be procured for the majority of purposes, and with careful management it may be made to supply every want of the manufacturer. It is of the greatest importance, therefore, that a plentiful supply of this material should be always available, and that the superiority of Irish linen fabrics should be maintained by its use, without our spinners being obliged to have recourse to Russia for a large portion of their supply. After being long confined to the province of Ulster, the cultivation of the flax-plant is now

being extended to many parts of the other provinces; and, through the recent improvements in its management, and the economy in the preparation of the fibre for sale, by the new machinery, the cost of production is lessened, while the grower receives a larger amount of remuneration than formerly. The withdrawal of protection from grain has given flax a fair field of competition, which it did not before possess, since it has had to compete with a free admission of foreign growth since 1845; and it may be fully expected that the unnatural forcing of grain culture in districts where the climate and soil are equally unsuitable to it will cease, and such crops be grown as are found to be naturally adapted to the country, and to the altered position of the farmer. The flax-crop offers such numerous advantages, and is so highly fitted for introduction into an improved system of rotation, that its extended cultivation throughout Ireland is only a question of time.

As regards the admission of our linens to consumption in foreign countries, at such rates of duty as would encourage their extensive use, it is useless to speculate on what is so uncertain of accomplishment. In all the linen-manufacturing countries of Europe the system of protection still obtains, and the interest of the mass of consumers is sacrificed to that of the small body of producers, although latterly, in some quarters, there are symptoms of a more enlightened policy being observed. It is questionable whether our *linens* may be admitted into some states on such terms as to cause them to come generally into consumption, but there is a great probability of our *yarns* being admitted. Since in the aggregate of the persons employed in the spinning, weaving, and bleaching operations, a very small proportion are occupied in the first-named process, whatever tends to increase the employment afforded by the other two, even if reducing that which the spinning alone affords, is manifestly the interest of a government to promote. The maintenance of a high duty on yarns unnaturally enhances the value of those spun in the country, and as the linen necessarily costs more, consumption is lessened. A small duty tends greatly to increase the demand, and the manufacturer adds to the number of hands he employs, much more largely than the spinner would have to reduce in the event of his being unable to meet foreign competition. The necessity of providing the manufacturer with a cheap material has already been recognised by the Belgian Government, by their lately admitting foreign linen yarns free of duty under certain conditions. Other nations will probably follow this example, and a vast outlet for our yarns be thus afforded. Although it would be more to the interest of the Irish linen trade if the restrictions on the admission of the woven fabrics were removed, still, if yarns be freely admitted, a large increase of machine-spinning, and consequently of employment, would take place. By reference to the history of exports from Great Britain, it will be seen that the exports of cotton-twist constitute a very large proportion of the entire products of her staple textile industry, and, in a similar way, the Irish exports of linen yarns may become of great future importance.

The linen trade of Ireland, at the present moment, is in a very flourishing state, the spinning, weaving, and bleaching departments, all employing their fullest complement of hands. There are many reasons for believing that its future progress will at least keep pace with its past developement. One cause of linen fabrics being dearer than cotton is, that the great mass of the latter are woven by power, while all the former, except some of the coarsest kinds, are woven by hand. Although many attempts have been made to adapt the power-loom to linens, they have hitherto not been successful, chiefly owing to the fact that flax-fibre is not so elastic a substance as cotton-wool. Nevertheless, late experiments have given more satisfactory results, although not yet sufficiently matured to warrant the belief that the power-loom can be soon made generally available. A Belfast damask-manufacturer has been able to produce some light damasks, of fair quality, by power, and is at present erecting a steam-engine and factory to carry on the manufacture on a more extended scale. It is scarcely possible that the difficulties which have heretofore prevented power-loom weaving from being adopted in the linen-manufac-

ture should prove insuperable. Mechanical science has achieved many triumphs where much greater obstacles lay in the way. We may, therefore, conclude that, sooner or later, the system will be fully carried out, and its results will have a powerful effect on the advancement of the manufacture.

The greater cheapness of cotton fabrics has prevented the use of linen for many purposes to which the latter is equally adapted. But the economy of working and the improvements in machinery for conducting the processes have latterly been more apparent in the linen manufacture than in its great rival. In fact, it would almost appear that the latter has reached its culminating point, while the former is still in a vigorous state of growth. Several instances could be adduced to prove that linen fabrics are beginning to displace certain kinds of cottons. As an example, the export of coarse drills to Brazil has latterly increased, in consequence of their having gradually fallen in price until there is now not nearly so great a disproportion in their cost, compared with the same fabric in cotton, as there was formerly. Hence, as linen drills are much more durable, the planter is beginning to find it more economical to employ them in the clothing of his slaves. Corduroys made with tow yarn have lately been made in Manchester, handsomer in appearance than the common cotton cords, more durable, and rather cheaper. The same manufacturer has also produced an article from flax-yarn to resemble cotton velvet, which has decidedly a richer appearance, and would be very suitable for window-hangings, &c. Flaxen-tubing, saturated with gutta-percha, has been found best adapted for carrying away sewage water; and flaxen-banding, prepared with pitch and other substances, has lately been introduced for driving machinery. In fact, let attention once be fully turned to this subject, and it will be found that the fibre of flax is suitable for many purposes to which it has never yet been applied. As an instance of this, a Dutchman has lately produced flax fibre, so purely white, and of such a beautiful lustre, that it could not be distinguished from floss-silk by any one but a judge. The process by which this is effected is said to be so little costly in its application, that the flax can be produced at 3*s.* per lb. in the same state in which silk would cost 14*s.*, and some ribbons have been already made of this material by way of experiment.

Of the substances employed by man in the fabrication of clothing, there are four articles which stand at the head of the list, from their applicability to a greater variety of uses than any others. Cotton, flax, wool, and silk, furnish the material for the great mass of the clothing of civilised nations as well as of a large proportion of uncivilised tribes, while they are extensively employed in many other ways. The manipulation of these textiles provides by far the greatest means of employment to those who derive their subsistence from manufacturing pursuits, and it is in the conducting of the various processes that the most varied and intricate of the wonderful powers of mechanism are employed. Two of these materials, cotton and silk, are exclusively the productions of the torrid zone. Although wool is largely produced in the British Islands, yet the manufacture is, to a great extent, dependent on an extraneous supply, as it is found that the home-grown fleece requires an admixture of other kinds to adapt it to many of the purposes for which it is used. Flax is the only one of these raw materials which Ireland is capable of supplying, of all qualities and suited to all purposes.

Cæteris paribus, that manufacture is in the most favourable position, which can obtain the supply of its raw material at home; and it is peculiarly fortunate that, in addition to the many facilities which Ireland affords for the prosecution of the only manufacture in which she excels, she is in a position to command this supply. It has been before stated that in war time Russian flax has risen from 30*l.* per ton to 150*l.*: and although in general it is of great importance to find a country to which we export largely capable of giving us in exchange products which we can turn to advantage, yet in the case of Russia the supply of flax is chiefly paid for in gold, as she obstinately excludes the chief articles which we can offer in exchange, and the balance of trade is always against us. While the Irish and the British flax-spinners and linen-manufac-

turers would benefit much by the present import of flax from Russia being entirely replaced by a home-grown article, the general trade of the British empire would not in any way suffer.

It will be evident, from these details, that the importance of the linen-manufacture as an element in the social well-being of the Irish people can scarcely be overrated. In the province of Ulster fully 300,000 souls derive their livelihood from this branch of employment; and it may be fairly inferred that the contrast which the northern provinces presents to the other parts of Ireland is chiefly owing to the existence of this great industrial pursuit. While elsewhere the population has been dependent solely on the products of the soil for their support, and their increase has been unprovided for by other means, until it has cumbered the parent earth with wretched paupers, filling the workhouses, and entailing a heavy burden on the rest of the community, in Ulster this increment has been absorbed in a great measure by the factories, the looms, and the bleach-greens; and the individuals thus employed have in a hundred ways aided the advancement of trade by the expenditure of their honest earnings. Since busy people are always quiet people, it is seldom in the manufacturing districts of Ulster that such outrages occur as those so frequently met with among the agrarian population of other parts of Ireland. And it is the linen-manufacture which has created a middle class in the northern province, independent of all others, self-reliant and energetic, and always offering to the industrious man a prospect of advancement to which he also may attain by persevering exertion. In short, were it not for the linen-trade and similar branches of manufacture, Ulster would now be in as prostrate a condition as many other districts, for the population of some of her most favoured counties is much denser than any in the south or west, and the quality of the soil throughout the province certainly does not equal the average of the midland and southern counties.

When George IV. visited Ireland, in August 1819, his majesty was received in the Linen Hall of Dublin by the Trustees of the Linen and Hempen Manufactures, and was shewn specimens of all the fabrics made in Ireland from flax-fibre. Just thirty years later, in August 1849, our present gracious sovereign, accompanied by her illustrious consort, visited the Linen Hall in Belfast, where she was received by the Royal Flax Improvement Society and shewn a collection of specimens illustrating the whole of the processes in the growth, preparation, and manufacture of flax, from the young plant to the finest cambrics and damasks now made in Ireland. This exhibition of our manufacturing skill excited the lively interest of the royal visitors who were pleased to express their gratification and the warm interest with which they regarded the progress of a branch of industry so essentially national, which forms the connecting link between its agriculture and manufacture. In the interval of time between the first and the second of these royal visits a great revolution had taken place in the linen trade. In 1819 the yarns were all made by hand. With one or two trifling exceptions, not a spinning-factory was to be seen. In 1849 more than seventy of these busy hives studded the land. In 1819, with the existence of bounties on the export of linens, and heavy duties on the admission of foreign flax and linen fabrics, only forty millions of yarns were exported from Ireland. In 1849 these exports had increased to seventy-five millions, although all the bounties and protective duties had been withdrawn. A voluntary society had succeeded in doing more to improve the quality of Irish flax than a Board with large parliamentary grants extending over more than a century had been able to effect. The power of self-interest, and the keen spirit of competition, had enabled the Irish manufacturers to distance foreign rivals, and in the face of all opposition to raise their trade to a position never attained to under the former system of hot-house-forcing. In its present state of healthful activity, the Irish linen trade is enabled to command all neutral markets, and if the home-growth of flax continue to increase and the hostile tariffs of European states be modified, its future extension will probably rival even the immense developement of the British cotton manufacture.

MERCHANTS AND TRADES' MARKS.

It cannot be doubted that, among the most ancient nations of whom we have any record, the manufacturer adopted some means of authenticating his productions and of publishing his name. The potters of Athens, of Etruria, and, later still, of Rome, signed their names on their works; although examples of this practice are, it must be admitted, more common in Roman than in earlier days. The Roman potter marked his ware in one uniform manner,—Ex officina Metelli, or whatever his name may have been; and owing to this fashion archæologists of the present day are enabled, by comparing examples found in this country and on the Continent, to distinguish whether remains so marked were made in England or abroad. The Roman method was copied by their British subjects, and not only fictile ware, but articles in bronze, have been discovered in this country, which indisputably bear the names of British makers. We do not know what means were adopted in Roman times by other manufacturers (as, for instance, the weaver) to identify their products, but it may be safely assumed that the potter did not stand alone in publishing his name and occupation. It is a matter of doubt whether Roman shops were distinguished by signs, and it is probable that no further light can be thrown on the subject, seeing that the principal shops mentioned by Roman writers are limited to four classes,—bakers, barbers, booksellers, and cook-shops.

From the period of the decay of Roman civilisation in Europe till the close of the 12th century, we have no information whatever of the means adopted by members of the various crafts to publish their respective occupations. In England, however, the use of seals, introduced by the Normans, was restricted to no particular class, inasmuch as a seal was essential to the validity of every legal document; and, owing to this circumstance, we find that early in the 13th century individuals of the trading and manufacturing class began to adopt as devices on their seals the instruments or emblems of their respective callings: thus, the smith exhibited his hammer and horse-shoe; the miller, an ear of wheat; the farmer, an ox; and the bell-founder, who in early days was usually also a lockwright, had a bell and key engraved on his seal. This practice continued universal till the middle of the 14th century, when another fashion, to which allusion will be presently made, was introduced. It should be observed, that for fiscal purposes a state seal was affixed as early as the 13th century to all pieces of woollen goods; and it is not improbable that the weaver also affixed his own, in order that his manufactures might be readily known.

It is to be supposed that the marks employed by different merchants, or manufacturers, were originally instituted to certify that the laws, regulating the quality of various imported merchandise, had been satisfied; they were then introduced to shew that the trader was duly qualified for his craft as a member of his guild, and as a warrantry that the merchandise offered proceeded from such authorised source, and they thus became marks of the celebrity a producer had obtained in his avocation. Accordingly, about the year 1350, we find the old devices on seals of tradesmen gradually yielding to what are technically called "merchants' marks," symbols composed of the initials of the owner's name combined with a cross and other marks,—the cross, however, invariably forming part of the design. Sometimes the cross has a pennon; in such cases the idea is borrowed from the *Agnus Dei*, which was supposed to possess a talismanic property. These merchant-marks are believed to have been introduced by the Flemings; and for a considerable period they were more generally used in the town and ports on the east coast of England than in any other parts of the country. It appears also that, at first, they were chiefly employed by woollen manufacturers and wool-factors, or merchants of the staple, as they were called. These marks were not only stamped upon their goods and bales, but were used on their seals; and when a wealthy merchant built himself a

house, or gave a window to a church, his mark appeared conspicuous in the decorations of the former, and identified him as the donor of the latter. By his mark the goods of an English manufacturer or trader were known in foreign markets, precisely as the English merchant distinguished the wares of the chief merchants of Antwerp and Bruges by their marks.

The general character of these cyphers, as they may be termed, will be seen by the many examples of various periods, from the 14th to the close of the 15th century.

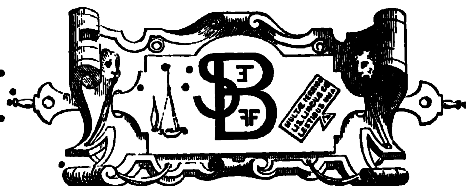


About the commencement of the 15th century signs for shops began to be common, and they were not unfrequently identical with the merchant-mark of the proprietor. During this century also the merchant-mark was often a rebus on the name, as in the accompanying specimen from Mr. Pickering (Pike-ring), and that of Talboys, publisher of Oxford, of the present day.

The paper-makers were accustomed, from the earliest periods, to place their monograms or marks on their different manufactures, and water-marks were introduced in the process of this manufacture. Many paper-stainers and manufacturers of printed papers placed their marks on their merchandise, by which their peculiar productions were recognised. As the artist, glass-painter, engraver, and others, employed their monograms or peculiar marks, so the works of the eminent printers of the early periods were known at home and abroad by marks, which were likewise specially adopted by the publisher and the trading firm. In examining some specimens of painting on china, produced at the factory of Messrs. Minton, at Stoke-on-Trent, we were glad to see that the painter-workman had been permitted to put his monogram at the



J. Vizetelly, Printer.



Talboys, Publisher.



J Cundall, Publisher



J Van Voorst, Publisher.



Longmans, Publishers.

back of them. Every collector knows the additional interest which authentic marks confer on the china of Dresden, Chelsea, &c. For this reason the renewal of the practice is commendable; but there is a far more important consideration connected with it, which is to be found in the increased interest which it is calculated to beget in the workman towards his work. One of the



W. Pickering, Publisher.



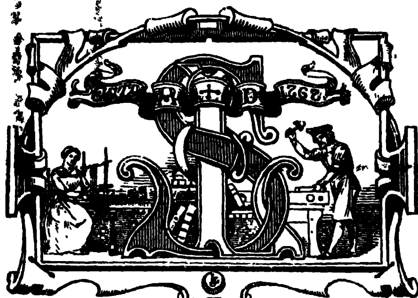
H. Bohn, Publisher



C. Whittingham, Printer.



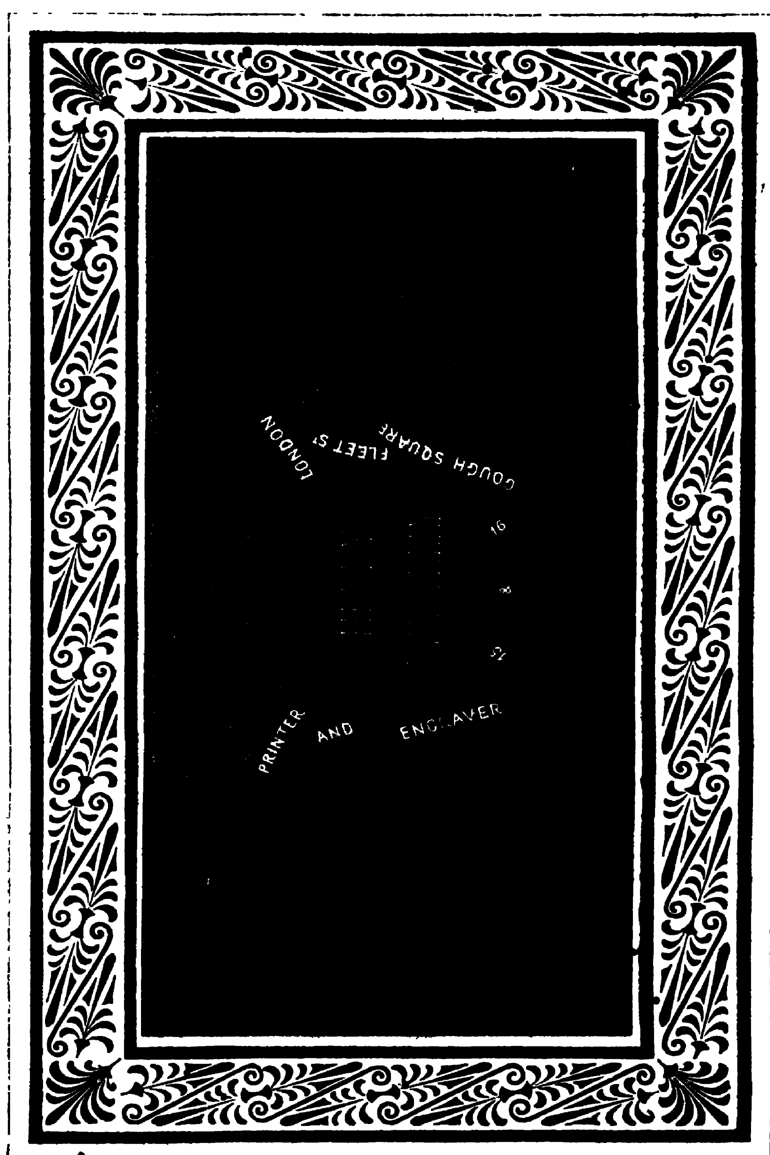
W Pickering, Publisher.



Leighton, Bookbinder.



W. Pickering, Publisher.



GOUGH SQUARE
FLEET ST
LONDON
16
PRINTER
AND





R. HENRY VIZETELLY begs to acquaint Booksellers, Publishers, and Manufacturers, and the general connection of the late firm of VIZETELLY BROTHERS & Co., that he has removed from Peterborough Court to

NOS. 15 AND 16 GOUGH SQUARE, FLEET STREET,

where he has formed an extensive and efficient Establishment for producing, in a style of excellence, and with rapidity, every kind of

Ornamental Printing and Engraving;

and he respectfully intimates, that, from the experience he has acquired, both as a Printer and an Engraver, in the production of the better class of Illustrated and Decorated Books, as well as Ornamental Circulars, Labels, Window and Address Cards, he believes himself competent to execute with promptness, taste, and accuracy, any work entrusted to his charge.

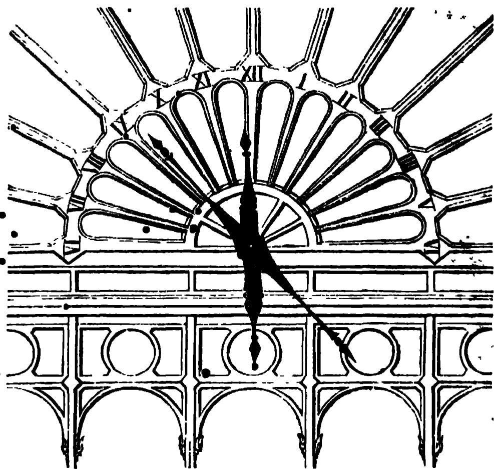
LONDON, MDCCCL.

surest ways of encouraging efforts after excellence, and administering to them a higher and healthier stimulus than mere mercenary profits, is to teach the workman to have a pride in the results of his labour and skill. And we shall be glad to see this practice of allowing the workmen to have the credit of their work extensively followed in the forthcoming Exhibition. Whenever individual skill has been exercised, which can fairly be recognised, we trust to witness its public recognition. We know that, owing to the minute subdivision of labour, this is often attended with difficulty, but, like china-painting, there are many other cases, such as modelling, chasing, printing, &c., where the art-workman's share of the credit can be fairly and easily distinguished.

We inserted last month the very ornamental announcement of Mr. Henry Vizetelly, and we now annex a few examples of the marks of some of our most eminent publishers and others who have adopted them,—many of these are highly appropriate, and stamped with which their productions are everywhere recognised.

CLOCK FOR THE TRANSEPT OF THE EXHIBITION BUILDING.

ALTHOUGH England is very far in advance of all other countries in the manufacture of clocks, so far as the accuracy and durability of their workmanship are concerned, yet it can shew no dials equal in size to many on the Continent. The largest clock-dial in England is that of St. Paul's, which is seventeen feet in diameter, and has both hour and minute hands; the largest on the Continent is at Malines, and is forty-three feet in diameter, on which the time is shewn by only one hand, revolving once in twelve hours. In all clocks with dials of these dimensions, the power required to move the hands is, of course, very great, and the well to allow the descent of the weights, through a space necessary to continue the motion of the clock for one week, must, in many instances, be nearly to the base of the building. For instance, in the tower of the new House of Parliament it is proposed to fix four dials, 23 feet in diameter, at upwards of 200 feet from the ground, the tower being so built as to allow the weight to fall through nearly 200 feet. It is obvious, if the whole of the weights and lines were superseded, the room necessary for their rise and fall would be rendered available for other purposes, and a great advantage obtained, as a large clock could be placed in a position where it has hitherto been impossible to place one. This object is obtained by electro-magnetism, as in Mr. Shephard's clock, in which the whole of the machinery necessary to work the hands is made to occupy a very small compass, and may be placed in any convenient position behind the clock-dial. The design is by Mr. Owen Jones, for a clock-dial, 24 feet in diameter, to be fixed on the transept of the building for the Great Exhibition, the hands of which are to be moved by electro-magnetism. It will be seen that the figures, which are each to be painted on a separate plate of metal, are arranged in a semicircle, the hands extending equally on both sides of the centre; consequently, as one end of the hands leaves the dial at six on the right-hand side, the other end will commence at six at the opposite or left-hand side, and continue to shew the time until it arrive at six on the right-hand side of the dial, when the opposite end will again commence, and so on alter-



nately. The clock will be placed 48 feet below the centre of the dial, motion being communicated to the hands by means of brass tubes, 1½ inches in diameter and about 40 feet in length. The whole will be moved by a series of powerful electro-magnets, on which are wound about 25,000 feet of copper wire. Two smaller dials, 5 feet in diameter, will be placed on the front of the galleries, at each end of the building inside, the whole of the dials to be governed by one pendulum, which will be placed among the horological instruments in the space allotted for their exhibition. In this clock the impulse will be given to the pendulum by a remontoir escapement, in which an electro-magnet at each vibration of the pendulum bends a spring to a certain fixed extent, which spring in unbending communicates the necessary power to continue the vibrations of the pendulum, independent of the variations of the electro-magnets.

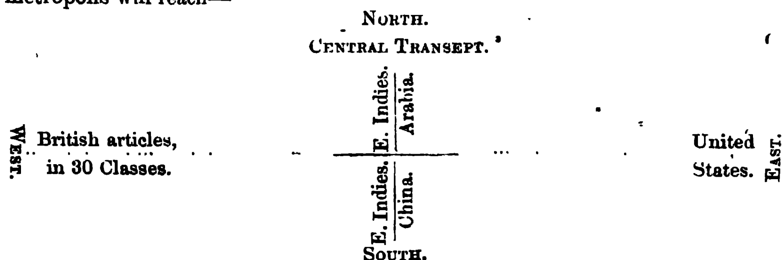
MACHINED PAPER-HANGINGS.

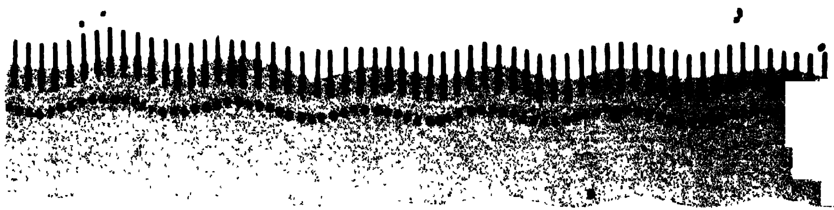
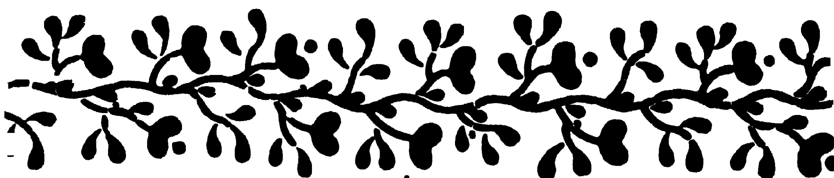
It is well known that it is at least some dozen years since the cotton and calico-printers of Manchester first began to print from cylinders, and it was not until within the last four or five years that the paper-stainers applied the same principle to printing papers, of a simple character, in one or two colours. At the outset their success was very moderate, being unaccustomed to the use of body colours, and unacquainted with their peculiarities and the best methods of applying them. Consequently the papers produced were of a very inferior character and quality, and did not enter into competition with the block-printed papers. Lately some of the leading printers of the "golden flock papers," in London, have turned their attention to the use of the machine; and it is most satisfactory and surprising to witness the rapidity and precision with which papers of six or eight colours are run off, the whole eight colours being printed during the passage of the papers *once through the machine*. A single machine is capable of printing in one hour 200 pieces of paper, each 12 yards long, or 1500 pieces equal to 18,000 yards, or 54,000 feet per day. The paper upon which the patterns are printed is manufactured in lengths of 2880 feet each; these are afterwards cut into 80 pieces, each 12 yards long.

As an example of the skill with which this mechanical process is carried out at the present time, we give a specimen of a machined paper-hanging, manufactured by the firm of Messrs. John Woollams and Co., and all who have observed the progress of this manufacture will agree, that this specimen shews considerable improvement.

EXHIBITION OF 1851: MONTHLY REPORT OF PROGRESS.

Last month we gave an outline of the general *arrangements* of the articles in the building, and the official notice now inserted in the Journal will fill up any details wanting. We may repeat that all foreign articles will be placed east of the Transept, British articles to the west, the articles from our Colonies being nearest the Transept. We understand that the allotment of places in the building for each foreign country and each of the thirty Classes of British articles is completed. Arabia and Persia are at the north-west, and China at the south-west side of the Transept. The United States is at the extreme east, and will, therefore, be the first country the bulk of the visitors from the metropolis will reach—






MACHINED BEDROOM PAPER-HANGING,

Registered Design.

**Manufactured by John Woollams and Co.,
69 Marylebone Lane, Oxford Street.**

JOURNAL OF DESIGN. Feb., 1851

In locating the Classes of articles in the Building, the first principle adopted has been to place the LIGHTER articles in the galleries. And although individual exceptions may occur in each Class, requiring to be placed on the ground, we believe that the following Classes have been placed in the galleries:—No. 2, Chemical; 3, Food; 4, Vegetable and Animal Substances; 7, The lighter articles of this Class and of Class 8; 10, Philosophical Instruments; 13, Silk; 15, Shawls; 19, Tapestry; 20, Clothing; 21, Cutlery; 22, Some lighter articles in Hardware; 23, Precious Metals; 24, Glass; 25, Pottery; 28, Manufactures from Animal and Vegetable Substances; 29, Miscellaneous. Carpets and Paper-hangings will also be hung in the galleries. This is a most excellent place for them, and whilst shewn in the best way, they will constitute an admirable decoration to the Building. Indeed, there can be no doubt that the galleries will be far the most attractive part of the Exhibition.

Notwithstanding the painting remains to be done, the Building is just ready to receive goods, and February will be a month of great bustle; but goods likely to spoil by exposure may be delivered later, provided the cases to receive them are fixed before the end of February.

We add some additional information on the subject of fittings and counters, which may be useful to Exhibitors:—

COUNTERS.—RULES FOR FITTING UP.

1. The boundaries of each Class are fixed, and counters, &c., of one Class must not extend into the limits of the Classes adjacent.

2. Counters projecting into the great central passage must not be built up higher than 4 feet, at summit. If desired, they may rise in steps from the ground.

3. Every passage leading out of the great central passage to the north or to the south must be 8 feet wide, and in the centre of every 24 feet space.

4. No communication from east to west between any passages shall be established, without special leave of the Executive Committee in writing.

5. Passages taken out of exhibiting space by Exhibitors, for their own convenience, must be on the ground, not less than 5 feet wide, and in the gallery not less than 3 feet wide.

6. Counters below a gallery may be built up to any height under, say 19 feet, if required.

7. Vertical, wall, or partition space must not project into the great central passage.

8. There must be always a clear passage of 5 feet next the railings in the galleries, and no passage less than 3 feet.

9. Cases, counters, &c., may be placed in any direction, north to south or east to west, provided they do not extend beyond the boundaries of the space allotted to their class or into the general passages; but it is requested that counters and cases should be multiples of 4 feet.

10. No vertical or counter space in the galleries must rise above 7 feet.

The Executive Committee lately have had numerous interviews with deputations from Manchester, the West Riding, Spitalfields, Potteries, &c., and all parties have expressed their full approval of the arrangements. The following are some of the more important questions asked by the Manchester Committee, with the official answers:—

"Will the Executive Committee lay out the articles?—No: where servants belonging to Exhibitors are allowed. Where no servants, of course the Executive Committee must; but then in its own way: necessarily in a very cheap and simple manner.

"Will each Exhibitor have to arrange his own goods?—To be arranged either by parties appointed by the Local Committee or by the Exhibitors; failing both, the Commissioners will take some steps in the matter.

"What will be the arrangement of the counters?—As the Local Committee wishes, so as not to interfere with the general passages; 7 feet not the standard width of counters; counters may be had of any width, say 1 to 14 feet.

"How high will wall space be above the counters?—Varying from the counters up to 40 feet. Wall space simply is, hanging space, and may be obtained round counters; probably only rails for suspending goods to, or ropes from galleries in some cases.

"What are the upright cases described in the decisions as being available with wall space, and extreme width of such cases?—If an Exhibitor wishes for any especial arrangement, he must make it at his own expense. If not, it will be done by the Commissioners, in the cheapest and most economical way. There will probably be no counters against external walls. The vertical or hanging space will consist of screens, to which projection, not exceeding 2 feet, will be allowed, either in shape of upright cases or counters.

"When wall space alone is demanded, will there be a counter in front of it for the exhibition of other articles?—Counters may, and probably will be, placed in front, left to the Exhibitors. Exhibitors must act together as much as possible, for their own convenience and economy.

"Will the counter be separated into stalls with the side divisions for each Exhibitor?—If required. The counters will consist of common deal boards. The expenses of Exhibitors and of the Commissioners not to be mixed. Side divisions may project 5 feet, and be as high as wished.

"If so, will each Exhibitor have to be at the expense of fitting it up?—Yes; where any special accommodation is required, or the Exhibitor has any wishes of his own.

"In such case it is supposed, that each Exhibitor would have his stall exclusively for his own use; *i.e.* coloured calicoes would not be placed in such a position that the silks or velvets of another contributor would be placed on a counter below them, and thus destroy the effect of the calicoes?—Left as much as possible to the Local Committee. Business of the Local Committee and the Exhibitors. When Exhibitors have no representatives, such an amalgamation, though not intended, it may be difficult to avoid.

"Can time for sending up goods be extended to the 1st of April?—No.

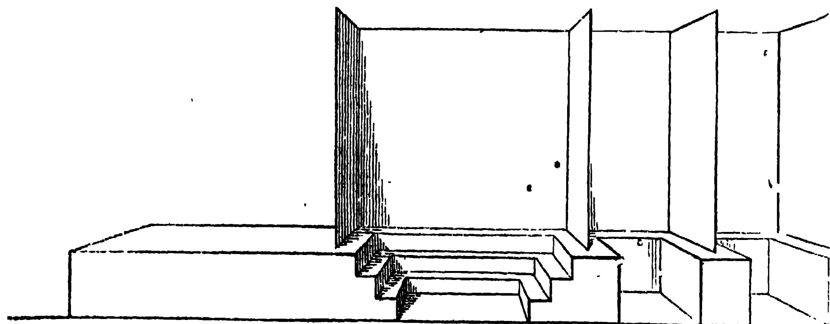
"If an Exhibitor makes in one district cotton, cotton and woollen, or cotton and silk goods, will he be allowed to exhibit altogether on one counter?—Certainly, unless entirely incongruous.

"What, if any, arrangements are made for receiving and warehousing the raw material till required in the building; and for removing and warehousing the yarns, goods, and other articles, as produced by the machinery?—Had not been previously thought of, but its reasonableness admitted, and will probably be arranged. Opinion of Manchester Committee solicited.

"What facilities will be given for the care of empty packages, when no servant of Exhibitor is in attendance?—Exhibitors must arrange by themselves or agents to open and unpack the packages at once and to remove the cases. Fox, Henderson, and Co., and Pickfords, will undertake those duties, at terms agreed on between the parties.

"Where Exhibitors provide no servants, will the Commissioners appoint suitable persons to take care of their goods?—Police will be in attendance. Every reasonable care will be taken, but no responsibility. Not able to express the degree of care. Servants will not be allowed, except in cases where the extent of contribution warrants it. It is probable, that in giving the privilege of free admission to servants, they will be expected to assist their neighbours."

The following engraving shews how wall space may be obtained and counter space increased.



GEOMETRIC TREATMENT OF CALICO PRINTS.

It is with much satisfaction we perceive the gradual advance of good *principles* in designs applied to the staple manufactures of the country. Incessant efforts are made to arrive at greater excellence in every stage of manufacture, chemical science is constantly striving to supply new dyes, or better modes of applying those which we have long possessed, the results of which efforts we have from time to time had occasion to notice in this Journal; and it is not to be supposed that when such energies are at work to investigate the chemistry of colours, that the design, to which they are to be applied, should alone remain unimproved. The pattern of the cotton printed by Hargreaves, for Liddiards, which we have inserted this month is an example of this advance; it is of the simplest arrangement both as to form and colour, yet, as will mostly be found the case, it is more effective than many designs of more elaborate arrangement and far higher pretensions.

A rectangular form placed lozengewise rules the geometric construction of the pattern, the centre of each form is filled by a single leaf, and on each intersecting angle is placed a flower of four petals, the treatment of which, as well as of the foliage, is perfectly flat. The colour is a gradation of two reds, enhanced with white in the flowers and leaf-stalks, and all the forms are bordered and defined by black: with these simple means a treatment of much richness, yet sparkling withal, has been produced. Much of the merit of the design consists in the flatness of treatment, a mode which we have frequently advocated. If greater attention had been given to select elegant and novel forms for the foliage and lines of the stems, the pattern might have been pronounced unexceptionable. The geometrical basis of patterns also might, and ought, to be much more studied than has been the case, and would be productive of many beautiful and varied treatments, without causing us to lose

sight of that simplicity of arrangement which is so essentially desirable. The early ornamentists, both Byzantine and Mediæval, gave great attention to geometric forms as the basis of ornament; and the many marvellous and beautiful combinations they have left us in their works remain a fund, to which the designer can constantly recur, and make new departures into the same region of thought and invention. The mere imitation of natural foliage, that most self-evident and unlearned of treatments, has too long undividedly prevailed, doubtless because it required little labour and less study; but real ornamental treatments, those in which nature is properly conventionalised to the necessities of the fabric, and geometry applied as the skeleton of the arrangement, will, as true knowledge advances, have a fuller share of attention, resulting in new and richer combinations. We are happy to see that our views accord with the course of instruction at Somerset House: on a late visit there, we perceived, by the prize-list and the works in progress, that this is the system pursued in the class for teaching elementary design. Geometric forms are given which the student has to fill with ornament derived from acknowledged styles, with natural foliage, and, lastly, with conventionalised natural foliage. Such a mode, steadily pursued and thoroughly carried out, must, from the sound principles on which it is based, result in the formation of a class of designers who will eventually effect great improvements, and render us independent of that foreign assistance which is now too often looked to as an absolute necessity.

Books.

REPORT OF COMMISSIONERS OF PATENTS, UNITED STATES FOR 1846. 8vo., pp. 1376.

THERE is probably no part of the present system of patents for inventions more defective than the means which are afforded to the public of consulting the records of patents. The account of the "Patent Laws Reform Association" is but too true:—

"No official record of patents already granted is accessible to inventors. The specifications are enrolled in three different offices [lately reduced to one], written in an obsolete handwriting. No index exists. The labour of searching through these specifications is all but hopeless; the expense would amount to many pounds a-day. A witness before the Committee of 1849 stated, that he paid, in one day's search in the Petty Bag-office alone, 2*l.* 8*s.* for fees. The consequence is, that not one inventor in a thousand attempts to search; and patents are taken out for the same invention several times, at serious loss and discouragement to patentees and manufacturers, without any advantage to the public."

All this is very different in America. In that country there is an admirable system of publication. There is an annual report and complete indexes, which are distributed in thousands gratuitously. At the present time it may be useful to shew the nature of the American reports, and we have taken that of the year 1846 for examination. In the preceding year there were 1240 patents applied for; 452 caveats; 507 patents were issued, including 6 re-issues, with 6 additional improvements; also 17 designs, classified and alphabetical lists of which, with the names of the patentees, are annexed; 470 patents were reported to have expired, a list of which is annexed; 18 applications for extensions, 3 only granted. Every claim is stated briefly, oftentimes not exceeding five or six lines. The following is a specimen:—

"No. 3911. What I claim as my invention, and which I desire to secure by letters patent, is the arrangement of the horizontal parallel tubes and slides, and the manner of dividing the bees by means of the breath, as set forth.—ELIAS JONES."

The annual receipts were 51,073 dollars 14 cents, out of which was repaid on applications withdrawn, 8223 dollars 33 cents: the total expenses being 31,172 dollars 32 cents. 593 dollars 58 cents were paid for duplicate models. The whole number of patents issued by the United States, up to that time, was 14,526. The models of patented and rejected inventions are preserved in a museum for public consultation.

The report of one examiner (C. G. Page) describes generally patents under the following heads:—

"1st. Agriculture, including instruments and operations.

"2d. Chemical processes, manufactures, and compounds, including medicines, dyeing, colour-making, distilling, soap and candle making, mortars, cement, &c.

"3d. Calorific, comprising lamps, fireplaces, stoves, grates, furnaces for heating buildings, cooking apparatus, preparations for fuel, &c.

"4th. Mathematical, philosophical, and optical instruments, clocks, chronometers, &c.

"5th. Hydraulics and pneumatics, including waterwheels, windmills, and other implements operated on by air or water, or employed in the raising and delivery of fluids.

"6th. Lever, screw, and other mechanical powers, as applied to pressing, raising, and moving weights.

"7th. Stone and clay manufactures, including machines for pottery, glass making, brick making, dressing and preparing stone, cement, or other building materials.

"8th. Leather, including tanning and dressing, manufacture of boots, shoes, saddlery, harness, &c.

"9th. Household furniture, machines, and implements for domestic purposes, including washing machines and cracker machines, feather dressing, &c.

"10th. Arts (polite) fine and ornamental, including music, painting, sculpture, engraving, books, printing, binding, jewellery, &c.

"11th. Surgical and medical instruments, including trusses, dental instruments, bathing apparatus, &c.

"12th. Wearing apparel, articles for the toilet, &c., including instruments for manufacturing."

The report of W. P. N. Fitzgerald, the second examiner, bears upon the following subjects:—

"1st. Metallurgy and the manufacture of metals.

"2d. Manufacture of fibrous and textile, and all machinery therefor.

"3d. Engines operated by steam or other gases.

"4th. Navigation and marine implements.

"5th. Civil engineering and architecture.

"6th. Land conveyance, including all kinds of vehicles for travel or for transportation.

"7th. Mills of all kinds for grinding grain, &c.

"8th. Machinery for working lumber.

"9th. Fire-arms and implements of war.

"10th. Miscellaneous."

Then follow letters upon scientific subjects, *e.g.*, Professor Morse upon the Magnetic Telegraphs in operation in Europe, sometimes accompanied with woodcuts; the State of the Agricultural and Vegetable Produce of the past year; the Season; the Crops; Potato Disease; Dairy Produce; Preparation of Soil; Manures; Wages of Labour; Summary of Manufactures, &c.

The classified list of patents is in the following form:—

Invention or Discovery.	Patentees.	Residence.	When issued.
Beehives.	Elias Jones.	Amsterdam.	Feb. 12, 1845.

Alphabetical List of Patentees.

No.	Patentees.	Residence.
4001	Ackerman Gershom.	Troy, N.Y.

List of Patents expired during the year 1845.

Names of Patentees.	Residence.	Invention or Discovery.	Date of Patent.
Adams, Charles	Boston, Mass.	Couches, Sofas, &c.	April 18, 1831.

The American reports put to shame our neglectful system of Registration.

WINGED THOUGHTS: POETRY. By M. A. Bacon. Drawn on Stone by E. L. Bateman, and directed by Owen Jones.—Longman.

As a successful specimen of brilliant lithographic coloured-printing, this work is deserving of the highest commendation, and it affords a convincing proof how usefully the process might be employed to multiply coloured examples for the use of students in design. It is a very attractive present-book.

Institutions.

SOCIETY OF ARTS.

Jan. 15.—Mr. H. Cole read the following paper, shewing, among other things, the policy intended to be pursued by the New Council with reference to the Great Exhibition:—Gentlemen,—The predecessors of the present Council made a bye-law to render it imperative on the Chairman, as soon as possible after the annual election of officers, to prepare, and read to the members of the Society an address which should embody the outlines of the policy by which the new Council purposed to increase the public usefulness and promote the welfare of the Society during their tenure of office; and I have now the honour to lay before you the first of such proposed annual addresses. You will, doubtless, agree that it was a sound and wholesome regulation, to make it obligatory on the Council to have some definite purpose or policy, without which neither corporations nor individuals can be of much use, and also to oblige them to declare to you what that purpose is. The Council believe that this relation between the members and themselves is destined not only to foster reciprocal confidence, but to exercise a very beneficial influence on the progress of the Society, and to enlarge public sympathy with its objects. Indeed, the Council believe that the present flourishing state of the Society is to be attributed to the steady maintenance of a policy during the last few years, through good and bad report, and to the means taken to interest the members and the public in that policy. It will be within the memory of many members, that only as far back as the year 1844 the numbers of the Society had considerably declined. At the present time they exceed 1000. It must be obvious, that if the decline of the Society was an index which shewed that the public was losing its faith in the usefulness of the Society, so the late rapid advance may be accepted as a satisfactory token that there is a returning confidence, and that if members now in numbers seek admission to the Society, it is because they feel that it is usefully at work. The present position of the Society must, therefore, be accepted as a proof that a purpose or policy has for some time been influencing the proceedings of the Council; and it is because the Council are sensible of this fact, and its importance as a principle of action, that they have imposed on themselves the obligation of having always before them a precise aim in conducting the management of this Society intended to promote the arts, manufactures, and commerce of the country, and of causing a declaration of it to be laid before the members. And, accordingly the Council will shortly have to ask you to confirm this resolution of theirs by making it a standing bye-law.

It is with societies as with individuals, they do not—cannot prosper by following mere formulas. An individual who has no purpose in the world but to vegetate, may as well not exist; and whether he be rich or poor, the world soon finds out that he is little else than an incumbrance, and treats him with indifference. To prosper, indeed, in these times, the man must be at work. We find the same analogies existing with societies. Unless they prove their ability to work, and work to some useful purpose, they become virtually extinct. A society cannot exist merely upon its name. Not only must it be alive to perform the functions it affects to do, but it must perform them in accordance with the advancing knowledge and increasing demands of the time. Men's wants in 1851 are very different from what they were in 1751, when the public wants created the Society of Arts. The arts, the manufactures, and the commerce, at the two several periods of developement, appear to be scarcely the same class of things. To teach or practise art as it was taught in 1751, would be held to be ridiculous at the present day. So with manufactures. The Hargreaves and Hoyles, who print calicoes by miles, would smile at the manufacturer who should propose to re-establish a factory at Chelsea, and paint patterns on cottons by the camel's hair pencil, as was the case, a century ago, in the early days of calico printing! To go to market again on pack horses, and not by railways; to carry guineas in pouches, and to be robbed of them on the highways rather than to use blank cheque-books of the Bank of England; to pay postages in shillings rather than pence, would be only to revert to the practices of commerce in 1751.

The Society of Arts had rather too long relied on promoting arts, manufactures, and commerce, by the same means and in the same spirit as it had done at its institution a century ago. But that phase in its existence is now passed; and we may hope that the Society is starting afresh on a new career of usefulness, more in accordance with the wants of the present age.

Considering the intimate and honour-

able connexion of the Society with the great coming event of the year,—the Exhibition of the Works of Industry of all Nations,—which, it is no exaggeration to say, is setting the whole civilised world in motion, and which, with the aid of his Royal Highness, the President of the Society, is the chief result of the policy already alluded to, the Council think that their great object during the present session should be to aid the Exhibition of 1851 by every means in their power. Already the members of the Society have witnessed tokens of this desire on the part of the Council manifested in the papers of Mr. Paxton and Professor Cowper, and in the offer of the Council to place the use of the rooms of the Society at the disposal of the Metropolitan Local Commissioners of the Exhibition. Mr. Paxton's paper demonstrated at the proper time that the Glass Palace in Hyde Park was not an experiment, but the extension of an idea which had already been proved to be practical at Chatsworth; whilst the lecture of Professor Cowper in the building itself must have dissipated, as it was meant to do, all ignorant prejudices that the building was not scientifically constructed or adequately strong. So the paper of Mr. Henderson on the means and organisation of labour which have been adopted to raise this extraordinary structure in so short a time proves both the desire of the Council to have this valuable information published for the public benefit, and the liberal spirit of the contractors, Messrs. Fox, Henderson, and Co., in permitting others to derive advantage from a knowledge of some of their business practice.

The Council do not propose to hold any further Exhibition this season, in order that the rooms of the Society may be free at all times to promote the interests of the Great Exhibition. It is their intention, during the period of the Exhibition, to hold several conversazioni and meetings for the discussion of topics which, it is foreseen, will arise out of the Exhibition. They have reason to expect that arrangements will be made to afford information and assistance to the foreign visitors, eminent in science and in art, who may be expected in great numbers; and when the proper time arrives, the Council will consider the propriety of placing the model-room at the disposal of any proper authority as a central place of meeting. But it is not only upon the direct, but also the indirect circumstances and wants arising out of the Great Exhibition that the Council will bestow their attention, and contribute the influence of the Society. There can be no doubt that the Exhibition will give rise to many new relations. Already a stronger connexion between the artist and manufacturer is springing up, beneficial to both. It will be the duty of the Council to foster this connexion, and they are considering a plan by which a friendly meeting for the discussion, investigation, and best means of promoting the union of art and manufactures may take place every year, in some one of the great manufacturing centres, somewhat on the principle of the meetings of the British Association and the Archæological Societies. Connected with such an union, the Council feel that much remains to be done to educate the mass of the people in the perception and practice of art, which the Exhibition is likely to make but too apparent; and taking advantage of the lesson we are likely to be taught, the Council purpose making an effort to establish elementary drawing and modelling-schools throughout the country. They have submitted this proposal to His Royal Highness the President, and they have the satisfaction of knowing that he thinks it may prove very useful.

Already the members of the Society may be congratulated on the successful result of the labours of the influential Committee of its members, which has been formed to promote legislative recognition of the rights of inventors. It has been announced that Her Majesty's Government are prepared to ask Parliament to confer the right on all inventors to exhibit their inventions at the Great Exhibition, without subjecting them to the pains and penalties for so doing which are entailed by the present system of patent laws: and there can be little doubt that this right, so consonant with honesty and common sense, will be continued beyond the period of the Exhibition. The labours of the Council will not be relaxed in affording every assistance to invest invention with its due rights and position as a science.

The Council believe that at the present time the Society of Arts will do well to make a considerable change in the kind of inquiries which it promotes. The time is gone by when it was desirable to hold out small rewards for little inventions, because there are now so many other and better modes in which all inventions of real practical value are published and rewarded. There are other inquiries which, though of the greatest importance, bring no profit or reward to those who carry them out, the benefit which they yield being shared alike by the whole community. The exposure of unfair

monopolies, and the collection of authentic facts and evidence shewing the evil effects of legal or commercial edicts upon manufactures or trade, are services of this sort; and the Council, therefore, propose to direct their attention in the ensuing session to a few subjects of this nature, rather than to a larger number of less important matters. Amongst the inquiries which it is proposed first to take up, they may mention the manufacture and supply of coal gas—the supply of water to London—the influence of the Excise laws on several arts—the manufacture of sugar in the British Colonies—the adulteration of food, &c.

Such is a brief outline of the policy which the Council hope to carry into effect during the present Session; they trust that it will meet with your approval, and that their labours will receive your confidence and support.

Dec. 31, 1850.—A private visit of the members to the Exhibition Building, at the invitation of the contractors, Messrs. Fox, Henderson, and Co., took place, when Professor Cowper gave explanations on the construction of the building. Messrs Jackson and Graham kindly fitted a part up with carpets. 1. At the west end of the Building, near the temporary offices of Messrs. Fox, Henderson, and Co., and here some introductory observations were delivered, directing attention to the most noticeable features of the Building. 2. Near the great Central Passage on the north side, the Professor pointed out the modes by which the strength, &c., of the girders, &c., has been proved. The patent cranes—the travelling scaffolding—the punching and cutting machines. 3. Near the Transept, on the south side, the preparation of the Paxton gutters—circular saws for cutting the gutters and the sash-bars—drilling-machine—painting machine—the glazing—the tents for glazing—the ventilation—louvre boards—the dryness of the Building—the construction of the Transept. It was obvious, that it was only by taking advantage of the present state of the works that explanations of the tools and contrivances in actual operation in the Building itself, could have been given. To prevent any misconception of the nature of this privileged visit so liberally conceded by the contractors to the members of the Society of Arts, the Council thought it right to observe, that it was to be viewed entirely as a private visit, and not in any respect as a public opening of the Building.

Manchester School of Design.—Towards the end of December a meeting of the friends of the School was held and presided over by the urbane Mr. Bazley, President of the Chamber of Commerce. He said that Mr. Abbott Lawrence, the American Minister, had told the Manchester manufacturers lately, that they would be eclipsed by their brethren in France, Germany, and Switzerland, in respect of design. He thought the instruction of the School ought to be extended. Mr. Cobden suggested that there should be a halfpenny local rate, which would raise 2500*l.*

Miscellaneous.

The geographical arrangement of the foreign part of the Exhibition having been settled as a principle, we have understood that the various modes of carrying it out presented difficulties, which were at last solved by the suggestion of His Royal Highness the President, that foreign countries should be grouped all together on the east side of the Transept, and of Colonel Reid, that the location of each country should be according to its *latitude* or climate; so that if nations had any jealousies or feelings on their position, they would complain not of the Exhibition, but of Nature's own decree.

The specimens preparing by the London Exhibitors for the Exhibition in the Class of Upholstery, Paper-hanging, and Decoration, are likely to be of a highly satisfactory character, particularly in the Upholstery department. The Sub-Committee for allotting space in the above section have come to the following very important resolution, a copy of which has been forwarded to all manufacturers applying for space, viz.:—"That in allotting space to paper-hanging manufacturers and decorators, it be an instruction to them that no direct copies of foreign paper-hangings or decorations will be admitted for exhibition." We hope our provincial manufacturers will also take the hint.

We are glad to hear that the students of the Head Schools of Design have produced some creditable designs for paper-hangings and lace, which are now being manufactured for the ensuing Exhibition. Manufacturers, however, still experience great difficulty in the use of the designs, owing to the want of a knowledge on the part of the students

of the mechanical processes of production, and extent to which the blending of colours can be carried. This has rendered it necessary for manufacturers to have some of the designs (although good in themselves) redrawn by experienced practical artists. Mr. S. M. Huber, of the firm of Messrs. John Woollams and Co., has endeavoured to lessen the difficulty in connexion with paper-hangings, by attending at the School and instructing the pupils in the mechanical portions of the art.

Weaving.—We hear that some important improvements in the machinery connected with the Jacquard looms are now being prepared for work, in the neighbourhood of Bradford.—Mr. Ashley, of Bethnal Green, has just completed some improvements in connexion with looms for weaving figured silks, by which, it is said, that he is enabled to dispense with the use of cards.

Example to Workmen.—The yarn-dyers in Glasgow (according to the *Builder*), about 400, have had a series of lectures delivered by Mr. Napier on the use of chemistry in dyeing, which have been exceedingly well attended: they have also had candidates for prizes awarded to the best essay on the subject; and are organising a library among themselves. The movement has originated among the operatives alone.

Mr. Gibson's Statue of the Queen for the Houses of Parliament.—At the east end of the great Victoria gallery in the new Houses of Parliament, through which Her Majesty passes in from the royal entrance to the House of Lords, is the royal antechamber, whence on either side is an access to that apartment; between these two doors and at the direct back of the throne in the House of Lords, and thus in direct line with the Victoria gallery, so that it can be seen from the whole length of that apartment, through the great arch which connects the rooms, is a large arched recess, which has been for some time set apart for a statue of Her Majesty; and Mr. Gibson, the sculptor, has been lately appointed to prepare a composition in marble to occupy it, from an approved sketch consisting of a seated representation of the Queen, supported on either side by erect figures of Justice and Mercy. In confiding the execution of this important work to one who has no superior, if even an equal, in our days, the Commission of Fine Arts have ensured to the nation a noble and perfected work. There can be no doubt as to this, and the only point on which there may be difference of opinion is, whether the taste of the artist, imbued as it is with the classic severity of Greek art, will be inclined to modify his treatment of the composition and details sufficiently to be in harmony with the lines of Gothic architecture,—an attempt seldom made of late years, but we hold perfectly compatible with perfection, beauty, and elegance. As the principal work yet commissioned for the New Palace, and at the same time its most important artistic decoration, we hope that it will set the example of being in harmonious unison with the style of the building it adorns. The example of such an artist in the right direction will be of great service. Another subject for hope, also, is, that the scale of the figures may not be too colossal; if it be, Glumdalca may be suggested to the mind! The composition will be approachable near, and colossal ladies, especially on near inspection, may be desired of less stature. Great increase of scale in a female statue is only, we hold, allowable in emblematic representation; and our good Queen is, fortunately for us, not a mere emblem, but an amiable fact. We are aware that the composition will be visible from the extreme end of the Victoria gallery, but this does not much alter the question, as the eye will make allowance for the distance, and be just to the sculpture, while, on the other hand, a colossal group will dwarf architecture, and lessen the long perspective so effective in Gothic buildings.

Metallic Taper Tubes.—Among the novelties which have of late years sprang up, and for which a large demand has arisen, may be classed that of metal bed steads; but till within a very short period they were of the most simple form and design. Messrs. Winfield, of Birmingham, have, however, not allowed the opportunity to pass by unimproved, for, on visiting their establishment last year, we had the pleasure of inspecting some very handsome designs, executed in brass, many of them had very bold taper fluted columns to support the cornice. On visiting the exhibition of patented articles, a few days since, we had an opportunity of inspecting a very ingenious machine for drawing taper tubes, by Mr. Hick. The inventor states that he is not aware that any good and efficient mechanical means has yet been employed for the purpose of drawing taper tubes, the ordinary process of manufacture being to take taper strips of metal and bend them by the hand on mandrils, after which they are soldered in the usual manner. By the machine Mr. Hick has invented, it is proposed first to roll the tubes by means of the rollers

and draw-plates in common use for such purposes. The taper is then to be given by means of eccentric grooved rollers, the length of the taper varying with the speed at which it is drawn between the rollers, and the amount of taper at all times being regulated by the grooves on the rollers. These, however, may be so arranged that a second and third set of rollers may be made to follow each other. The inventor has long used rollers of this description as a self-adjusting stay for different diameters of shafts when being moved in the lathe, and also for the ends of boring-bars, and has found them answer well. By means of this machine, therefore, we hope to see still further improvements effected in design as well as execution.

AN APPEAL TO MANUFACTURERS to arouse themselves for the Exhibition of 1851 has been made by the "Idler in London," in the *Builder*, which may be repeated for their edification. He observes:—"I heard Lord Brougham say, at the Westminster meeting, in Willis's Rooms, "When I first heard of the proposed Exhibition I had great fears for my countrymen, having recently had opportunities of testing personally the superior intelligence and instruction of foreign mechanics; but I became re-assured when I reflected that although they may beat us in ornaments and knicknacks, we should triumph over them in the solid, the substantial, the wearables, and the durable." I since thought of such a material as "devil's dust" to thicken woven woollens, and of the 250,000 quarters of wheat annually converted into paste to give body to our cotton goods, and begin to think it possible that our triumph will not be so easy over the flaxen fabrics of Flanders, the fine woollen cloths of Sedan or Vevoiers, the silks of Lyons, and the muslins and calicoes of Switzerland. Therefore, whoever among our manufacturers proves a recreant in the struggle, will infallibly be an enemy to the welfare of his country. It cannot and ought not to be concealed, that foreign manufacturers are active to shew their products in England for the purpose of establishing a demand for their use. They are also backed by the assistance of their respective Governments, who are fully aware that employment for the working classes is the safe agent of political tranquillity. On our side, we are bound to see that we do not, by neglect, transfer a portion, either great or small, of the occupation of our industrious artisans to aliens, and thus strip our own hard-working mechanics of employment, and create its attendant miseries. We have never heard of a shopkeeper so insane as to invite a stranger who could offer better or more tasty goods, to open a shop for their sale close to his own. This will be very nearly our position, unless we awaken from our apathy and indecision which appear like the reaction of our first and violent burst of enthusiasm.

A DOUBLE-HANDED SQUIRT OR PORTABLE FIRE-ENGINE of the description ordered by the Court of Common Council in 1667 to be kept by every parish in London, was exhibited lately at the London Institution. The engine exhibited is dated 1672, and belonged to the parish of Aldgate.

REGISTRATION OF DAMASK DESIGNS.—The following has been addressed to the President of the Board of Trade, and is sent us by the manufacturers:—"On the 2d November, 1850, we registered a pattern of silk damask of Class 12 for one year, having previously made inquiries at the office to ascertain if we could extend the period of registration as soon as the Act was altered, it being our wish eventually to register it for three years, and were told we could. Since the alteration the printed list of office fees states, that 'damasks in Class 12 may be registered at once, or at any time during the existence of the original copyright of one year for an additional term of two years.' We have presented the pattern for additional registration, and are now told that it cannot be done, as the Act is prospective, and only takes effect after the 5th November, 1850, whereas our pattern was registered on the 2d November, or three days previously. The refusal to register the pattern has caused us great inconvenience; and as we conceive we have been led into the error by the officers of the Registrar, and by the printed copies of the Act (page 4), relating to the registration of designs, respectfully beg the privilege of an extension of two years in this case, seeing the pattern was only registered three days before the Act came into operation. We would further submit whether the restriction would not be better altogether removed, so that persons might take advantage of the extension of time on all patterns running.—We are, sir, yours most respectfully, *pro* D. WALTERS AND SON, JOHN SLATER.

"14 *Wilson Street, Finsbury.*"

List of New Manufactures.

Useful and Ornamental.

[On the same principle as the Literary Journals give a list of new publications issued weekly, so we propose to afford to manufacturers, &c., the opportunity of announcing the novelties they bring forward, accompanied with such brief remarks as will be strictly explanatory; our readers will have the goodness to bear in mind, that the statements under these circumstances are made on the responsibility of the producers.]

Chessmen in Parian, designed by John Bell, manufactured by Minton and Co.



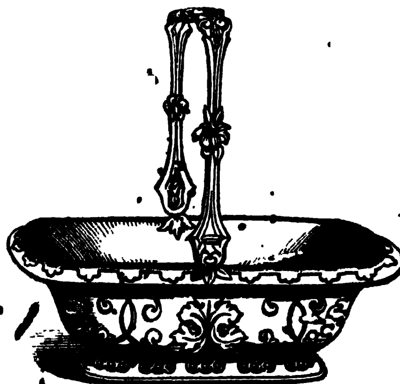
(At Cundall and Addey's, 21 Old Bond Street.)

Bust of the late W. Etty, R.A., Modelled by Mr. M. Noble



(At 56 Albany Street, Regent's Park.)

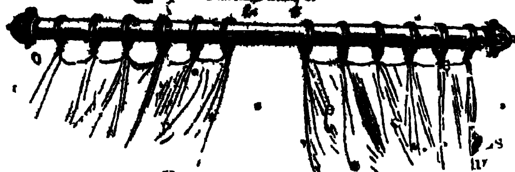
Lady's Work-basket.



Manufactured by the Gutta Percha Company.

Note.—Manufacturers are requested to forward illustrative woodcuts for this list as early in the month as possible. Those who may not have woodcuts ready, and desire them to be prepared expressly, may be recommended to apply to Mr. Bolton, 331 Strand.

Curtain Rings.



Manufactured by the Gutta Percha Company

Inkstand



Manufactured by the Gutta Percha Company

The Registered Crescent or Improved Solar Oil Lamp



Manufactured by J Warner and Sons, 8 Crescent, Jewin St

...lm...ral Pattern, Registered ...urner and Hanging Dome



Manufactured by J Warner and Sons 8 Crescent, Jewin St.

END OF VOL. I

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ESSAY THE FIRST;

ON THE

KOCCH, BÓDO AND DHIMÁL TRIBES,

IN THREE PARTS.

PART I.—VOCABULARY.

PART II.—GRAMMAR.

PART III.—LOCATION, NUMBERS, CREED, CUSTOMS, CONDITION, AND PHYSICAL AND MORAL CHARACTERISTICS OF THE PEOPLE.

BY

B. H. HODGSON, ESQ.

B. C. S.

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